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Draftees: Disqualifications for Military Service for Medical Reasons - an Analysis of Trends Over Time

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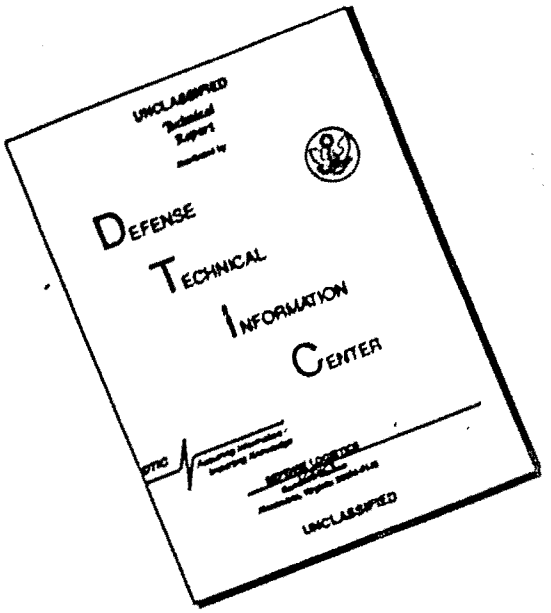

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DRAFTEES: DISQUALIFICATIONS FOR MILITARY SERVICE FOR MEDICAL REASONS—AN ANALYSIS OF TRENDS OVER TIME

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FOREWORD

The research reported here presents data on reasons for medical disqualifications among men examined for military service during the period August 1969 through January 1970. Recent years have seen an increase in the medical disqualification rates. This report attempts to identify possible causes for this increase.

The data for this report were obtained from the Office of the Surgeon General, Department of the Army.

This research was conducted under the sponsorship of the Assistant Secretary of Defense (Manpower and Reserve Affairs). The analysis was carried out by Dr. Bernard D. Karpinos, Senior Scientist, Division No. 7, HumRRO, Alexandria, Virginia. The work was performed under Contract DAHC 15-72-C-0123.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

LONG-STANDING PROBLEMS

Variations in Qualifying for Military Service

Results of examination of youths for military service have consistently indicated wide ethnic and geographic variations in the qualification of these youths for such service. This is specifically true with respect to qualification of draftees—registrants within the Selective Service System forwarded by the local boards to the Armed Forces Examining and Entrance Stations (AFEES) for determining their acceptability for military service—as distinguished from voluntary applicants for enlistment. The present analysis is basically confined to draftees. A further important distinction is made, for proper analysis, between draftees forwarded to the AFEES for "initial" examination ("not previously examined draftees") and those forwarded for re-examination ("previously examined draftees").

Qualification Criteria

Three fundamental criteria—moral, mental, and medical—determine a youth's qualification for military service. These criteria, or standards, are promulgated in special Army regulations (3, 4, 5, 6).

With respect to moral qualification, the regulations provide that the following persons could not qualify for military service: (a) those having certain criminal records; (b) those exhibiting criminal tendencies, involving alcoholism, drug addiction, or other traits of character rendering them unfit to associate with military personnel; and (c) those who have been previously separated from the Armed Forces under conditions other than honorable, or for the good of the service.

With respect to mental qualification, prior to August 1958 the minimum requirement was a percentile score of 10 on the Armed Forces Qualification Test (AFQT), as was established by the Congress. Youths failing to meet the minimum score (below 10 percentile) were termed "Mental Category V." From the time it was initiated (1950) until August 1958, the AFQT was the only mental test (except for the Spanish test in Puerto Rico) used for determining mental qualification for military service.

In August 1958, additional mental tests and additional minimum mental requirements were introduced. The tests consisted of a series of aptitude area tests, formerly administered at the reception stations for classification (assignment) purposes, which were transferred to the AFEES for supplementary testing, to be used with the AFQT. These tests were initially termed the Army Classification Battery (ACB) and were to be given to youths with a percentile score of 10 through 30 on the AFQT (Mental Category IV). In September 1961, the ACB tests were replaced by an equivalent AQB-1 (Army Qualification Battery)—a shorter (time-saving) test that was presumably better adapted for measuring the narrower range of aptitudes required as a screening device at the AFEES. A new version of AQB, which is still in effect, was adopted in July 1962. It comprises seven aptitude areas: Infantry; Armor, Artillery, or Engineering; Electronics; General Maintenance; Motor Maintenance; Clerical; and General Technical. The minimum AQB requirements have varied greatly (raised twice soon after AQB was introduced, and subsequently lowered). The highest AQB minimum prevailed from May 1963 through October 1965; the lowest AQB minimum is at present, under "Project 100,000" (14).

The minimum standards for medical (physical and psychiatric) acceptability were also specified by the Congress, in stating that they "shall not be higher than those

applied to persons inducted between the ages of 18 and 26 in January 1945" (14). The current medical procurement standards became effective in January 1961 (5), presumably in compliance with the medical provisions prescribed by the Congress.

Disqualification by Cause

In accord with these qualification criteria, youths disqualified for military service are classified as follows, by disqualifying cause:

(1) Administrative reasons—referring essentially to youths disqualified for moral reasons.
(2) Failed AFQT—youths scoring below 10 percentile.
(3) Failed additional mental requirements—youths in mental category IV failing to meet the current AQB requirements.
(4) Medical reasons—failing to meet the current procurement medical standards.

Youths so classified have one disqualifying cause. There are, however, youths who fail to meet both the medical and the mental requirements ("overlapping group"). Hence, in evaluating separately either the medical or the mental qualifications, this "overlapping group" is to be added to either evaluation.

Socioeconomic Criteria

On the basis of general knowledge about the health status and the educational achievement (the latter positively correlated with AFQT) of various population groups, and about the relationship of these characteristics to socioeconomic status, it would be expected that draftees who had relatively low disqualification levels for mental reasons (presumably reflecting a relatively high socioeconomic status) would also have relatively low disqualification for medical reasons, and vice versa. However, past and present experience relating to the processing of draftees for military service indicates quite the contrary.

By ethnic group, white draftees who show relatively low disqualification rates for mental reasons, reveal unexpectedly high disqualification rates for medical reasons. Conversely, Negroes who show relatively high disqualification rates for mental reasons indicate unexpectedly low disqualification rates for medical reasons.[1]

By geographic area, a similar inverse relationship was found: Areas with low mental disqualification rates had high disqualification rates for medical reasons, and vice versa. It should be noted that the ethnic differences persist regardless of the geographic differences. In other words, the ethnic differences persist about equally within each geographic area.

Analogously, extensive differences were revealed by recent data relating to disqualification for medical reasons by educational level. The better-educated draftees had higher medical disqualification rates, specifically at the college level.

There is certain evidence that potential diagnostic evaluations will actually disclose relatively higher prevalence of certain disqualifying defects when comparing, say white with Negro draftees, or North with South, or college draftees with those of a lower educational level. However, it seems likely that this would not suffice to explain the persisting significant discrepancies in the medical disqualifications.

[1] See Table 2 and Figure 1 for the medical disqualifications by ethnic group.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Naturally, these medical findings have caused much military and social concern and have prompted the Department of Defense to initiate a special study to determine the reasons for these differences.[1]

Primary Concerns

The DoD authorization for the study stated a need for a thorough examination of the adequacy and consistency of application of current medical examination procedures both at the AFEES and at the reception stations of the four Services. As will be shown later, the findings indicated not only a serious procedural problem in the medical examination process—that is, not only a problem relating to the application of the medical standards—but simultaneously a problem in the standards themselves.

The seriousness of the problem lies in the fact that it almost precludes a proper evaluation of the medical qualification of youths for military service—essential from a military manpower-procurement point of view, especially in view of an impending zero draft. Even more serious is the fact that these findings indicate unexpected socioeconomic disparities.

Medical Disqualification Study

It became clear at the beginning of the planned study that in order to obtain, as fully as possible, comprehensive answers to these concerns, a complete inventory of all youths examined for military service should be obtained from the AFEES—both draftees and voluntary applicants for enlistment. Such an inventory should contain all available differential data on the examined youths that could affect their medical qualification—namely, age, ethnic classification, educational attainment, AFQT score, geographic area, and individual AFEES. Plans for obtaining and tabulating such data were developed so that the overall results of the examinations, as well as the diagnostic data, could be analyzed in terms of these variables. These data were to be supplemented by additional related data, such as height, weight, and blood pressure.[2] The ultimate objectives were to discern the independent effects of each of these variables, as well as their interdependent effect, in order to get at the root of these long-observed differences in the medical disqualifications.

Although conceived in midyear 1967, the study was implemented about two years later, in August 1969, because of the many technical problems to be solved. The study, which came to be known as the "Medical Disqualification Study," comprises the experience of the six-month period from August 1969 through January 1970. The tabulated data for analysis became available during the last quarter of 1971. (Such differential data as were provided for the "Medical Disqualification Study" continue to be assembled and processed by the same procedures established for that study, thus allowing continuous analyses.)

[1] Memorandum from the Assistant Secretary of Defense (Manpower and Reserve Affairs) to The Secretaries of the Military Departments; Subject: Application of Medical Standards at Armed Forces Examining and Entrance Stations and at Reception Centers of the Services; dated 14 July 1967.

[2] See Appendices B and C.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

IMMEDIATE PROBLEM

Recent Increase in the Medical Disqualifications

On top of these long-standing problems and, unquestionably, as a direct result of these problems, there recently emerged an additional crucial medical problem—namely, a recent sharp increase in the medical disqualification of draftees. Without losing sight of the ultimate objectives of the study, it was thought pertinent to undertake an immediate analysis of these recent changes by comparing current data that became available from the "Medical Disqualifications Study" with past data. The pertinence of such an analysis was dictated not only by the urgency of this immediate problem, but by the conviction that such a comparative analysis would prove very helpful toward the analysis of the long-standing problems.

The steady increase in the disqualification of draftees for military service for medical reasons has become most pronounced of late. During the six-year period from 1966 through 1971, the medical disqualification rate on "initial examination" ("not previously examined" draftees) rose from 24.2% in 1966 to 39.9% in 1971, an absolute increase of 15.7% and a relative increase of 64.9%.[1] To be sure, certain outside factors—beyond the control of the AFEES—have been responsible for this increase. The primary contributor is, of course, the strong prevailing tendency among certain youths to avoid military service. Whether ideologically motivated by an antagonistic attitude toward the war, or by a simple unwillingness to serve, this tendency has obviously led to careful study of the medical standards, to "sought-for" better knowledge about potential disqualifying defects, and to documentation of such defects by presenting doctor's certificates or other supporting evidence to the AFEES. It has been most advantageously exploited by those draftees who have the available means to do so—namely, by the better educated draftees and by those in the higher socioeconomic status. (The greatly expanded draft-counseling services in religious, community, and, principally, educational institutions have been playing a major role in this respect.)

These are well-recognized facts. However, there still remains the question: Is there something in the medical standards per se, or in their application, that provides the proper medium for these outside factors to operate so advantageously? To find an answer(s) to this question, it was thought essential, as stated before, to undertake an evaluative study of the past and present experience in regard to the disqualification for medical reasons.

APPROACH

Goals. In undertaking the evaluative study, the main goals were (a) to determine the particular diagnoses that have been mainly accountable for the recent increase in the medical disqualifications; (b) to examine the corresponding standards; and (c) to trace any changes in these standards, or in their application, that could have led to these increases.

Data Used. Diagnostic data for 1957-1958 period (the most recent available data prior to 1961, when the current medical standards became effective) were compared with the current data, from August 1969 through January 1970, as available from the "Medical Disqualification Study."

[1] See Table 2 and Figure 1.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Some 388,000 "not previously examined" draftees were included in the 1957-1958 study and the number medically disqualified was about 80,000. Some 555,000 "not previously examined" draftees were included in the "Medical Disqualification Study" and the number medically disqualified was about 174,000.

In 1957-1958, the disqualification rate for medical reasons was 20.5% on initial examination, as compared with the corresponding rate of 31.3% in the "Medical Disqualification Study." The latter rate is thus one and one-half times as high as it was in 1957-1958—about 12 years ago.[1]

LEADING DIAGNOSES

The leading diagnoses that have been mainly responsible for the increases in the medical disqualifications were found to be as follows (arranged in order of importance): overweight and underweight; hypertension; defects of joints; defective hearing and unilateral deafness; congenital malformations; abnormal urinary constituents; and skin and cellular diseases.[2] Possible underlying causes that could have brought about the increase in their respective disqualifications are discussed.

Overweight and Underweight

"Overweight" and "underweight" combined head the list of the leading diagnoses accountable for the recent increase in the medical disqualifications. The disqualification rate for overweight increased during this period from 1.2% to 4.3%, and that for underweight from 0.4% to 1.1%—in spite of the fact that, during this period, the weight-height standards were twice revised upward, and significantly so.[3]

The current disqualification rate for overweight is about four times as high as it was in 1957-1958; that for underweight about tripled. Currently, the disqualifications for overweight and underweight comprise some 17.3% of all medical disqualifications; in 1957-1958 the corresponding figure was 7.4%. Overweight and underweight account for 36.2% of the recent increase in the medical disqualifications.

The detailed analysis of the weight-height data and the underlying causes for their increased disqualification rates suggests the following:

(1) A weight-height study is to be undertaken based on current data. The study is to be accomplished separately for draftees and applicants for enlistment, inasmuch as the data for draftees might be significantly biased by "purposive" overweight and "purposive" underweight. It is to be done by ethnic group and age, in two-year age intervals. (The current weight-height standards are in terms of 16-20 and 21-25 years—too wide age-intervals, especially for the younger age group.

(2) The maximum and minimum should be established on the basis of the actual distributions and statistically determined ranges.

(3) The "overweights" and "underweights" who entered the military service under the Medical Remedial Program (MREP) (Project 100,000) should be evaluated as to their military service effectiveness.

[1] Table 4.
[2] Table 6.
[3] Table 7 and Figure 2.

(4) Flexibility in the standards, lacking now, should be reintroduced.
(5) Additional criteria might be provided, especially for judging overweight—not limited exclusively to weight-height relationship. This might desirably lead to "differential" weight-height standards, adoptable to different job assignments within the military service.

Hypertension

Hypertension is the second leading diagnosis accountable for the recent increase in the disqualifications for medical reasons. The disqualification rate for hypertension increased from 0.8% in 1957-1958 to 3.1% at present. The current rate is thus about four times as high as it was formerly. In 1957-1958, hypertension comprised about 4% of all medical disqualifications; currently, the corresponding figure is about 10%. Over one-fifth (21.5%) of the total increase in the medical disqualification is due to hypertension.

Oddly enough, the analysis of the present data for hypertension indicates that its disqualification rate is lower than could have been anticipated had a proper quantitative evaluation been made at the time when the current standards for hypertension were established. Prior to 1961, when the new standards became effective, the standards for hypertension for all age groups were blood pressure of above 150-mm. Hg. systolic or above 90-mm. Hg. diastolic. Currently, the standards for those under 35 years of age is 140-mm. Hg/91-mm. Hg.—fully applicable to the present draftees.

The increase in the disqualification for hypertension is lower than would be expected under the changed standards because blood pressures at the AFEES are under-read. This is conclusively substantiated by much evidence presented in the analysis of "hypertension." (In discussions of the medical standards it has usually been stated that these remained "stable" and that no basic changes have been introduced by the current regulations on medical standards—clearly, an incorrect statement, especially with regard to hypertension.)

Briefly, if the standards are proper, the AFEES then qualify, by under-reading the blood pressure, many draftees who should be disqualified—except, of course, those who are knowledgeable about the standards and make the AFEES adhere to them. On the other hand, if those who qualify for military service because their blood pressure is under-read perform effectively in the military service, then the blood pressure standards should be changed. The current findings clearly corroborate what was expertly stated about a quarter of a century ago with respect to blood pressure standards in the military, namely: "The range of normal blood pressure, both systolic and diastolic, is still not clearly defined, and critical levels about which it is unsafe or unwise to accept a registrant, have not been established on a sound, factual basis" (8).

The following pressing goals are, therefore, indicated:

(1) Establishment of appropriate means for obtaining, as far as possible, accurate blood pressure readings.
(2) When (1) is accomplished and sufficient data become available, a comprehensive study, based on these data, for evaluating the distributions of examinees by systolic and diastolic blood pressure in terms of ethnic group, age, and presumably weight, in view of the fact that blood pressure is a function of weight as of age (10, 20).
(3) Appropriate follow-up studies on blood pressure within the Armed Forces to establish standards on a "sound, factual basis"—as suggested a quarter century ago and still critically needed now.

(4) Appraisal of the existing blood pressure standards on the basis of these distributions and follow-up studies.
(5) Preparation of appropriate blood pressure tables, by age, ethnic group, and perhaps, weight.

Such an overall appraisal might lead to redefining hypertension, should it indicate that the current standards are unjustifiable.

Defects of Joints

The disqualifications for defects of the joints rank third as a cause of the recent increase in the medical disqualifications. The disqualification rate doubled from 1.0% to 2.1%. Some 11% of the recent increase in the medical disqualifications are accounted for by disqualifications for defects of the joints. In 1957-1958 these defects comprised about 5% and now about 7% of all disqualifications for medical reasons.

Studies of separations for medical reasons for EPTS (Existed Prior To Service) conditions indicate that somewhat over one-third of the separations were for "orthopedic defects"—which include, of course, defects of the joints—not detected at the AFEES (23). The EPTS separations have been sharply criticized and brought about investigations by Congress. As a consequence, more careful screening at the AFEES might be responsible for this increase—surely to be considered desirable. However, this does not rule out the possibility that here too socioeconomic factors may play an important part.

Defective Hearing

Defective hearing is the fourth leading cause for the recent increase in the medical disqualification. This disqualification rose from 0.4% to 1.3% during the period under consideration. The increase is apparently due to changed procedures established at the AFEES for determining auditory acuity, as well as to changed standards of acceptability.

Formerly, auditory determination was made primarily on the basis of the whispered and spoken voice. Currently, such determination is made on the basis of audiometric hearing, presumably a more accurate determination. Furthermore, profile 3 (H-3) on the audiometric testing was eliminated in 1962 as "acceptable."

For a proper evaluation of the audiometric standards, it is recommended that a comprehensive study be undertaken to determine the distribution of the examinees by the various audiometric readings, by age and ethnic group. Data for such a study are available from the Standard Form 88 (Report of Medical Examination; Item 71; Appendix C-3), but are not coded at the present.

Other Leading Diagnoses

The five leading diagnoses discussed above account for over three-fourths (77.4%) of the recent increase in the medical disqualifications. The other leading diagnoses[1] account for an additional 16.4%, so that altogether these diagnoses are responsible for 94.0% of the recent increase in the medical disqualifications.

[1] Table 6.

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INTRODUCTION

OBJECTIVES OF THE STUDY

On 14 July 1967, the Assistant Secretary of Defense (Manpower and Reserve Affairs) issued a memorandum for the Secretaries of the Military Departments, Subject: Application of Medical Standards at Armed Forces Examining and Entrance Stations and at Reception Centers of the Services. Both the underlying reasons that prompted its issuance and the objectives are succinctly stated in the memorandum (Appendix A). To quote:

(1) With respect to the underlying reasons:

> "Results of preinduction examinations of draftees for military service in 1966 reveal that a much greater percentage of whites are disqualified for medical reasons than are Negroes in all geographical areas of the United States. Other available evidence indicates that medical rejection rates are also much higher for college graduates, generally, than for men with lesser educational achievement. These findings appear to be inconsistent with the general assumption that groups in the population with less access to medical services and lower standards of living are more likely to suffer from certain types of medical disabilities.
>
> "It is also noted that a wide variation exists among the four Services in the attrition rate due to medical reasons during basic training.
>
> "These findings indicate the need for a thorough study of the adequacy and consistency of application of current medical examination procedures, both at the AFEES and at the reception centers of the four Services."

(2) With respect to the objectives:

> "The objectives of the study will be to determine the causes of the observed differences in medical disqualification rates among the various population groups screened and in medical attrition rates, and to recommend any desirable changes in medical examination procedures, and in organization and management of the medical examination system."

There are thus two major fields of investigation: (a) the processing of manpower for military service, as accomplished at the Armed Forces Examining and Entrance Stations (AFEES), specifically with respect to the medical examinations; and (b) military manpower attrition, as reflected by separations of military personnel from the service for medical conditions that existed prior to service. These are, of course, related fields, as attrition depends to a large degree on the adequacy of the medical examination at time of procurement.

The information here and subsequent related studies are concerned with the first field of investigation.

BACKGROUND

Long-Observed Variations

Although, in indicating the ethnic and geographic variations in the medical disqualifications, the memorandum refers only to the 1966 preinduction data, actually these variations have been observed for a long time. The general results of the qualifying examinations conducted at AFEES have consistently showed higher medical disqualification rates for draftees from presumably higher socioeconomic groups—prior to 1966 as well as after (14, 15). In fact, whether the disqualifications by cause for military service are historically appraised by ethnic group (white vs. Negro), or by geographic area (either by state or by geographic division), or by both, it becomes evident that there is an inverse relationship between the disqualifications for mental reasons and those for medical reasons. Low disqualification rates for mental reasons—reflecting higher socioeconomic status—seem to coincide generally with relatively high disqualification rates for medical reasons, and vice versa. These findings are further verified indirectly (as indicated in the memorandum) by some provisional data manifesting analogous variations by education: The higher the educational attainment of the draftees, the higher their medical disqualification rates, specifically at the college level.

Questions Posed by These Variations

The following pertinent questions may be posed in this connection: Are these variations in the medical disqualification rates "real?" That is, are they due to actual *differences in the prevalence* of defects among these various population groups? Or are they due to "socioeconomic" factors—namely, differences in the "awareness" (or "sought-for awareness") of such defects by the various groups? Or are they due to some procedural differences at the AFEES in performing the medical examinations? Or are they due to other extrinsic ("motivational") factors? In the last instance, patterns of prevailing anti-war attitudes suggest themselves as a possible differential factor.

In attempting to find answers to these questions, it must be realized that many medical findings at the AFEES are dependent upon being reported by the individual concerned. Since the youths of the lower socioeconomic groups have less access to physicians, they are likely to be less knowledgeable about their medical defects, and hence, will tend to report fewer defects at the time of the medical examination. It must also be recognized that the medical disqualifications at the AFEES are much affected by information reported by private physicians; again, youths in the lower socioeconomic groups are less likely to produce such reports.

The existence of such factors—should they be demonstrated on the basis of a *differential (ethnic, educational, regional, etc.)* analysis of proper data—naturally raises a serious question as to the equity, as well as the adequacy, of the AFEES medical examination. On the other hand, should the differential analysis indicate that these medical variations are at least partially "real"—that is, valid—such findings would likewise be of national importance, especially if particular diagnoses could be established.

Recent Increase in Disqualifications for Medical Reasons

In addition to the above-stated critical questions (and problems) relating to the long-observed differential variations in the medical disqualifications, there has emerged of late another related problem that has been causing much concern—namely, the recent sharp increase in the medical disqualification of draftees. This rise in medical disqualification can not be attributed to a sudden change in the health status of American youths. Reports required by the U.S. Army Recruiting Command (USAREC) from the AFEES

concerning the recent rise in the medical disqualifications offer the following explanations:

> "The _____ area abounds with draft counseling services, each having detailed knowledge of AR 40-501 and other regulations. Registrants availing themselves of these services gain a knowledge of what medical conditions will cause them to be rejected and take appropriate action to substantiate their case. When the registrants arrive for examination, they come prepared with letters from doctors, clinics, hospitals, and on occasion, with extracts of 40-501 that cover their particular case. As a result they are disqualified or scheduled for consultation for impartial determination which may ultimately lead to their rejection."
>
> "During this month, the AFEES processed an abnormally high number of college students. It has been experienced that college students have a higher rate of rejection for medical reasons than is the case with non-college students. As an example, this month, one local board forwarded 350 college students. The rejection rate for this group was close to 80%."
>
> "Probable cause lies in the number of older-than-average individuals, mostly recent college graduates."

Widespread knowledge of medical disqualifying causes provided by draft counselors, especially on college campuses, and the opportunity of obtaining documentation from the medical profession are generally thought to be the most significant contributors to the present increase in the medical disqualifications. This activity stems, of course, from the currently intensified tendency to avoid military service—a tendency over which the AFEES have no control. However, there might be certain substance to the following statements (22):

> "Draft counselors have made the Army adhere to its own regulations."
>
> "The people who wrote the regulations never thought they'd be followed."

These statements indicate a clear need for an evaluation of the medical standards per se, as well as of their implementation.

PLAN OF THE STUDY

APPROACH

It was decided that a comprehensive statistical analysis of the medical disqualifications would require the following steps:

(1) A complete inventory should be made of all youths examined at the AFEES for military service, both (a) draftees, that is, registrants forwarded by the local boards (Selective Service System) for preinduction or induction examination, and (b) applicants for enlistment. (A comparative evaluation between draftees and applicants for enlistment with respect to their qualification for military service would be important, not only in appraising the draftees as of now, but also in providing basic data for considering a zero-draft.)

(2) The inventory should contain all available differential factors that could affect the examinee's medical qualification for military service; namely, his age, ethnic classification, educational attainment, mental test score, and area of residence.

(3) It should provide detailed diagnostic data of the disqualifying defect(s), plus such related data as height, weight, and blood pressure, that could affect the medical results. These diagnostic data should be in terms of the differential factors, as specified in (2).

(4) In view of the recent sharp increase in the medical disqualification of draftees, a historical review (analysis of trends over time) of past experience should precede the differential analysis. This analysis should compare as far as possible the past available data—specifically, the past diagnostic data—with the corresponding data to be obtained from the projected study. Such a comparison would be useful in evaluating the effects of changes in the medical standards (if any) or in their application, independent of the effects of the differential factors.

Accordingly, data as outlined in (1) - (3) were requested in setting up the study, which became known as the "Medical Disqualification Study." The data requested are listed in Appendix B.

SOURCES OF DATA

The data for the "Medical Disqualification Study" were to be obtained from the following forms:

(1) DD Form 47 ("Record of Induction")—initiated for draftees by the local boards (Selective Service System). It carries on its obverse side the draftee's personal data, i.e., date of birth, educational attainment, occupation, mental status, prior military service, whether or not he is a conscientious objector, etc. (See Appendix C (1) for facsimile of form. There is no ethnic differentiation on this form. "Race" is added later at the AFEES on Standard Form 88; see (3) below.) The form is forwarded to the AFEES when the draftee is sent there for determination of his military qualification. The reverse side of the form contains the results of draftee's examinations: his medical, mental, and moral determinations. This side of the form is completed at the AFEES.

(2) DD Form 4 ("Enlistment Contract—Armed Forces of The United States")—fulfilling basically the same function with respect to the applicant's personal data as DD Form 47 does for draftees. The form is ordinarily initiated at the recruiting stations and forwarded to the AFEES when applicant is sent there. (See Appendix C (2) for copy of form.)

(3) Standard Form 88 ("Report of Medical Examination")—accomplished at the AFEES. It contains certain personal items (taken primarily from DD Form 47, or DD Form 4), plus data on purpose of examination and detailed medical data. The latter data consist of a clinical evaluation; laboratory findings; physical measurements and other findings, such as height, weight, build, blood pressure, vision, and hearing. It states whether or not the examinee was qualified for military service, and specifies the diagnoses (defects) in cases of medically disqualified examinees. It may also include recommendations for reexamination (16). (See Appendix C (3) for copy of form.)

(4) Standard Form 89 ("Report of Medical History"). This form is not a direct source for the requested data, but is included here because of its important effects on the medical examination. The medical processing of youths at the AFEES requires that a medical history (SF 89) be taken on each examinee. This report is designed to provide data on the examinee's health status (past and present), and also some similar data regarding his blood relations and other relatives. The medical information reported on the form is to be used by the examining physician as a reference when conducting the medical examination. It serves specifically to alert the physicians to conditions or ailments which ordinarily are not readily discernible. It is a self-administered paper-and-pencil form, filled out by the examinee in his own handwriting. Neither oral nor written instructions are given for completing the form. Assistance is provided only when the examinee has difficulty in understanding the questions; such difficulty

arises chiefly with respect to unfamiliar medical terms used on the form. As previously stated, the information obtained on this form depends, obviously, on whether the examinee is able (is aware or understands) to supply the correct answers to the questions.

PLANS FOR DATA COLLECTION AND ANALYSIS

Except for the diagnostic data for the medically disqualified examinees (Appendix B (2)), all requested data (Appendix B (1)) were to be assembled and coded at the AFEES on paper tape, then forwarded to Headquarters, USAREC, to be converted to magnetic tape and edited by computer means for consistency. A copy of the "computer-corrected" magnetic tape was to be submitted monthly to the Office of the Surgeon General, Department of the Army.

With respect to the diagnostic data of the medically disqualified examinees, copies of SF 88 and DD Form 47 were to be forwarded by the AFEES directly to the Office of the Surgeon General. In addition, any available consultations, letters from civilian doctors, or other documents that could have influenced the medical determination were to be included. All medical data from SF 88 and the enclosed documents were to be coded at the Surgeon General's Office, and subsequently linked via a computer with the corresponding basic data on the magnetic tapes supplied by USAREC.

The tabulations that were projected, to be based on these coded data and carried out by the Office of the Surgeon General, are presented in Appendix D. The tabulations were planned to provide differential data—overall results as well as detailed diagnostic data—on the medical disqualifications, by ethnic group, educational attainment, mental category, age, geographic area, and individual AFEES. They were also to include data on the relationship between educational attainment and the percentile scores on the Armed Forces Qualification Test (AFQT), permitting a qualitative differential evaluation of the educational attainment; data on height, weight, and blood pressure—significant both in themselves and for interrelated studies, as well as in evaluating the medical disqualifications; and qualitative data on the youths who entered the military service, as inductees or enlistees.

IMPLEMENTATION OF THE STUDY

PERIOD COVERED

Many technical problems, involving availability of proper equipment and time required for designing, programming, "debugging," and pretesting the requisite data, had to be solved before data collection was undertaken. The actual implementation of the study started in August 1969, and data were collected as planned. In order to provide sufficient data for reliable differential analyses, the study was to be carried on for six months; consequently, the "Medical Disqualification Study" covers the six-month period from August 1969 through January 1970.

PRIMARY ELEMENTS IN THE ANALYSES

The overall results of the examination were tabulated, as projected, in terms of all differential factors. The tabulations dealing with the differential diagnostic distributions and the auxiliary tabulations (height-weight; blood pressure; educational attainment by AFQT scores) have also been completed.

On the basis of these tabulated data, in this and related studies it is planned, by proper statistical procedures, to separate the effects of the various factors—whether ethnic, or educational, or age, or regional—and to determine their relative importance in establishing military qualification. The various diagnostic distributions will be examined in order to ascertain the particular diagnoses that differentiate one segment of the examinees from the other, and simultaneously the extent to which documents from private physicians could have affected the results of the medical disqualification will be evaluated.

As shown in the requirements for "Projected Tabulations" (Appendix D), the coded and tabulated data for the "Medical Disqualification Study" relate to the following types of examinees:

A. Draftees, subgrouped as:
   (1) "Not Previously Examined"—draftees forwarded for preinduction examination for the first time.
   (2) "Previously Examined"—primarily previously disqualified draftees, forwarded for another preinduction examination.
   (3) "Direct Induction"—draftees forwarded for induction, without a preinduction examination.
   (4) "Physical Inspection"—qualified pre-inductees, less than one year after their preinduction examination, forwarded for induction.
   (5) "Lapse of Time"—qualified preinductees forwarded for induction one year or more after their preinduction examination, hence requiring a complete medical reexamination.

B. Applicants for Enlistment, subgrouped as:
   (1) "Not Previously Examined."
   (2) "Previously Examined."

To pursue the primary objective(s) of the study, the main analyses will deal with "not previously examined" draftees and draftees forwarded for "direct induction" (without a preinduction examination), as well as with "not previously examined" applicants for enlistment. In other words, basically the analyses will deal with "initial examinations."

CONTINUING AVAILABILITY OF DIFFERENTIAL DATA

The types of differential data provided for the "Medical Disqualification Study" are continuing to be assembled, coded, and processed by the same procedures established for that study.

THE RECENT INCREASE IN MEDICAL DISQUALIFICATIONS

As was previously stressed, the recent sharp increase in the disqualifications for medical reasons created an additional critical problem of concern for the planned differential study of the medical disqualifications. Hence, without losing sight of the main objectives of the study, it was deemed appropriate to try first to uncover the underlying causes, within the military processing procedures, that brought about the recent increases. This priority for presenting the data given in this report was adopted because of:

(1) The urgency of this additional problem.
(2) The presumption that a comparative evaluation of the past and present medical data would provide basic insight into the analyses of the differential variations. (This proved to be the case.)

MEDICAL DATA FOR DRAFTEES, 1953 - 1971

Tables 1 and 2 present medical data for a 19-year period, from 1953 through 1971. Table 1 deals with all draftees, that is, "not previously" and "previously" examined. It shows, by year, the number of draftees examined and the percent disqualified for medical reasons (both draftees disqualified for medical reasons only, and those disqualified simultaneously for medical and mental reasons). The data are shown separately for white (i.e., non-Negro) and Negro personnel.

Table 1

Draftees: Number Examined for Preinduction and Percent Disqualified for Medical Reasons, by Ethnic Group and Type of Examinee (1953 - 1971)

Year	White[a]				Negro			
	Total Examined		Previously Examined		Total Examined		Previously Examined	
	Number	Percent Disqualified for Medical Reasons	Number	Percent of Total Examined	Number	Percent Disqualified for Medical Reasons	Number	Percent of Total Examined
1953	743,525	16.4	41,199	5.5	133,570	10.9	3,476	2.6
1954	336,595	26.9	73,804	21.9	50,401	17.3	7,769	15.4
1955	176,955	21.0	25,083	14.2	28,961	15.7	2,631	9.1
1956	214,394	18.4	13,826	6.4	31,475	11.7	1,052	3.3
1957	311,863	20.4	11,045	3.5	55,617	12.1	966	1.7
1958	415,070	23.8	14,360	3.5	69,976	13.8	1,110	1.6
1959	124,237	26.8	12,302	9.9	24,268	14.3	1,060	4.4
1960	223,797	26.5	10,087	4.5	35,463	15.1	1,021	2.9
1961	447,454	25.3	17,195	3.8	87,757	14.6	1,969	2.2
1962	253,238	27.7	23,557	9.3	52,835	16.6	2,697	5.1
1963	438,507	29.4	19,744	4.5	93,779	16.8	2,516	2.7
1964	696,562	26.3	21,253	3.1	150,949	11.7	2,456	1.6
1965	1,061,305	25.5	74,838	7.1	167,671	15.7	5,504	3.3
1966	1,436,415	26.5	125,769	8.8	172,971	16.7	11,539	6.7
1967	622,269	31.3	114,047	18.3	95,778	20.6	18,224	19.0
1968	1,009,381	33.3	122,382	12.1	155,531	21.5	12,438	8.0
1969	1,146,062	36.4	125,436	10.9	179,747	25.5	12,114	6.7
1970	905,012	40.3	139,190	15.4	111,661	27.8	11,955	10.7
1971	528,310	44.3	58,916	11.2	67,878	30.4	5,225	7.7

[a]Defined as non-Negro.

Source: "Summary of Registrant Examinations for Induction," DA Form 316 (Reports Control Symbol MED-66), a monthly report submitted by the Armed Forces Examining and Entrance Stations (AFEES) to the Office of the Surgeon General, Department of the Army, relating to the preinduction and induction examination results of draftees.

During the recent six-year period, from 1966 through 1971, the total medical disqualification rates for draftees increased as follows, by ethnic group:

White:

From 26.5% in 1966 to 44.3% in 1971—an absolute increase of 17.8%, a relative increase of some 67%.

Negro:

From 16.7% to 30.4% within the same period—an absolute increase of 13.7%, a relative increase of some 82%.

These are the rates ordinarily referred to as the medical disqualification rates.

MEDICAL DATA BY TYPE OF EXAMINEE

Table 2 presents the disqualification rates for both "not previously" and "previously" examined draftees. There are statistically significant differences in the disqualifications of these two types of examinees: "Previously examined" draftees have by far higher medical disqualification rates. Hence, changes in the proportional distributions of the examinees by type will effect changes in the total disqualifications for medical reasons: The higher the proportion of "previously examined" draftees, the higher the total disqualification rates.

Table 2

Draftees: Percent Disqualified for Medical Reasons on Preinduction Examination, by Ethnic Group and Type of Examinee (1953 - 1971)

Year	Percent Disqualified for Medical Reasons[a]					
	Not Previously Examined			Previously Examined		
	Total	White	Negro	Total	White	Negro
1953	14.3	15.0	10.5	39.5	40.6	27.3
1954	18.8	19.6	13.9	51.3	52.9	36.3
1955	16.8	17.2	14.3	42.6	43.9	30.2
1956	16.2	17.0	11.1	38.2	38.9	28.2
1957	18.4	19.6	11.5	39.1	40.4	24.0
1958	21.6	23.0	13.6	44.4	45.7	27.7
1959	22.4	24.2	13.5	48.9	50.5	30.5
1960	24.1	25.5	14.7	45.7	47.4	30.0
1961	23.1	24.8	14.5	35.0	36.8	19.9
1962	23.7	25.5	15.6	47.6	48.9	36.0
1963	26.6	28.7	16.6	40.6	42.5	25.3
1964	23.0	25.5	11.3	47.7	49.2	35.8
1965	24.0	25.4	15.5	26.7	27.1	20.6
1966	24.2	25.1	16.1	39.8	41.2	25.3
1967	26.8	28.0	19.2	43.3	46.0	26.4
1968	28.8	30.3	19.8	53.8	55.0	41.7
1969	31.9	33.3	23.6	61.0	62.1	50.7
1970	34.5	35.9	24.5	63.7	64.5	54.9
1971	39.9	41.4	28.7	66.2	67.6	50.3

[a]Includes examinees disqualified for medical reasons only and those disqualified simultaneously for both medical and mental reasons.

Source: "Summary of Registrant Examinations for Induction," DA Form 316 (Reports Control Symbol MED-66), a monthly report submitted by the Armed Forces Examining and Entrance Stations (AFEES) to the Office of the Surgeon General, Department of the Army, relating to the preinduction and induction examination results of draftees.

"Previously Examined" Draftees

Beginning with 1965, there have been large increases in both the absolute number of re-examined draftees, and their proportion relating to the total number of examined draftees.

Numerically, the increase occurred as follows, by ethnic group:

White:

The number of re-examined draftees rose sharply from about 22,000 during the 1962-1964 period to about 75,000 in 1965; it fluctuated around 120,000 during the four-year period of 1966-1969; it further rose to about 139,000 in 1970. It leveled off in 1971 to 59,000, but this number of re-examinees is still three times as high as it was before the increase became noticeable;

Negro:

The corresponding number rose from a former yearly total of 2,500 to 5,500 in 1965 and to around 12,000 in 1966, 1968, and 1969. The largest increase happened in 1967, amounting to about 18,000 re-examined draftees, but it dropped back to about 5,000 in 1971 (Table 1: Previously Examined).

Proportionally, the corresponding changes were as follows, by ethnic group:

White:

The highest proportion occurred in 1967—18.3%; it declined to 12.0 - 11.0% in 1968-1969, increased to 15.4% in 1970, and decreased to 11.2% in 1971;

Negro:

As in the case of the white draftees, the highest proportion was in 1967—19.0%; it declined to 8.0 - 7.0% in 1968-1969, it increased to 10.7% in 1970, and declined to 7.7% in 1971 (Table 1: Previously Examined).

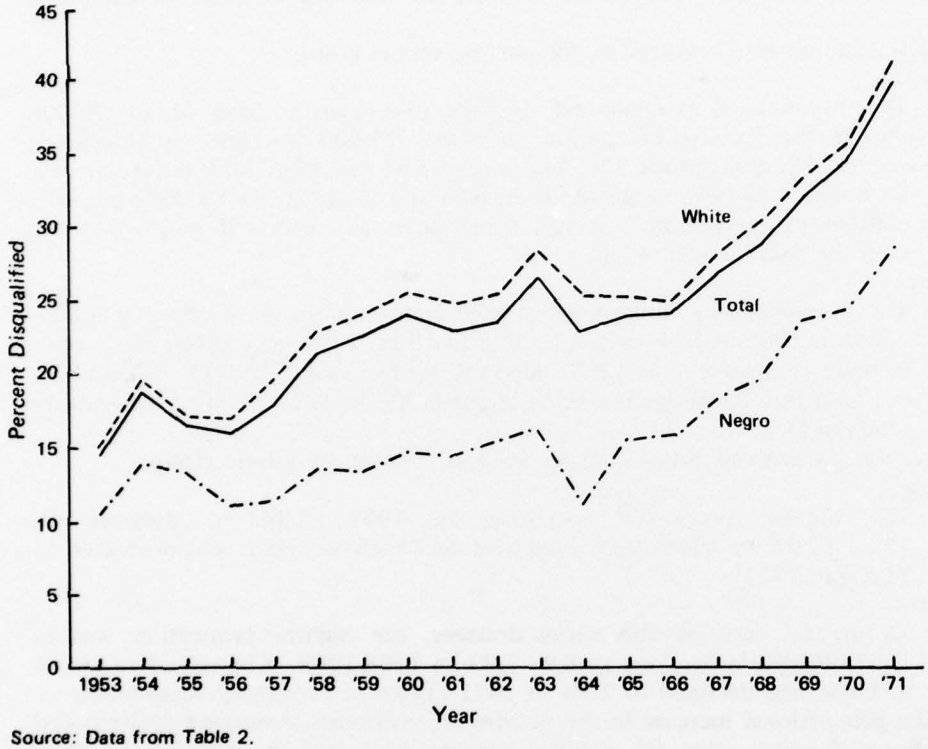
Clearly, the proportional increase in the number of previously examined draftees and their higher disqualification rates for medical reasons were apt to increase the total medical disqualification rates. Moreover, there has been simultaneously a steady increase in the medical disqualification rates of this type of examinees (Table 2).

In the context of the present analysis, these findings with respect to "previously examined" draftees are not the main issue. However, it is a serious issue, in light of the recent tremendous increase in the number of these examinees, many of whom have been re-examined two or more times. A recent "spot-check" review of some 11,000 medical reports (Standard Form 88) of draftees who were disqualified for medical reasons on initial examination showed that some 44% of these medical reports were marked RBJ ("Re-examination Believed Justified"). A diagnostic evaluation of these RBJ cases—potential re-examinees—cast definite doubt upon the justification of a considerable part of these re-examinations (16). It seems, therefore, that in a general evaluation of the processing procedures at the AFEES, the re-examined draftees, about whom little is known, deserve much attention and should be carefully appraised, especially those re-examined for medical reasons.

"Not Previously Examined" Draftees

The crux of the immediate problem lies, of course, in the fact that there has been a consistently growing increase in the medical disqualification of draftees on initial examination. This is brought out in Table 2, and graphed in Figure 1.

Draftees: Percent Disqualified for Medical Reasons, On Initial Examination, by Ethnic Group (1953 - 1971)



Source: Data from Table 2.

Figure 1

During the six-year period, from 1966 through 1971, the medical disqualification rates on initial examination steadily increased as follows, by ethnic group:

White:

From 25.1% in 1966 to 41.4% in 1971—an absolute increase of 16.3%, a relative increase of 65.0%.

Negro:

From 16.1% in 1966 to 28.7% in 1971—an absolute increase of 12.6%, a relative increase of 78.3%.

Total:

From 24.2% in 1966 to 39.9% in 1971—an absolute increase of 15.7%, a relative increase of 64.9%.

Comparison With the 1953 Medical Disqualification Rates. Compared with the disqualification rates for medical reasons in 1953, our historical point of departure, the current 1971 medical disqualification rates are almost three times as high. By ethnic group, the current medical disqualification rates of white draftees are 2.8 times as high as they were in 1953, and of Negro draftees 2.7 times as high (total, 2.8 times as high).

Diagnostic Evaluations. Unquestionably, many outside factors, beyond control by the AFEES, have been responsible for the steady and marked increases in the medical disqualifications. However, the cardinal question still persists: Is there something in the

medical standards as such, or in their application, that provides a proper medium for the outside factors to operate so advantageously? To find an answer(s) to this question, it was thought essential to:

(1) Determine the particular diagnoses that have been mainly accountable for the increase in the medical disqualifications.
(2) Examine then the corresponding standards.
(3) Trace any changes in these standards, or in their application, that could have led to these increases.

This necessitated comparative diagnostic evaluations of the current disqualifications with corresponding data from the most recent past experience, but prior to 1961, when the current regulations on medical standards became effective (5). (Note: Some 28 changes to these regulations have been published since 1961.)

CURRENT AND PAST DIAGNOSTIC DATA

CURRENT DIAGNOSTIC DATA

The current diagnostic data, utilized in this analysis, are from the "Medical Disqualification Study" (August 1969 through January 1970). For a general orientation, some overall results of this study are presented in Table 3.

Table 3

Results of Examination of Youths for Military Service, by Type of Examinee (August 1969 - January 1970)

Results of Examination	Draftees[a]		Applicants for Enlistment[b]	
	Number	Percent	Number	Percent
Examined: Total	554,979	100.0	144,224	100.0
Qualified: Total	334,127	60.2	120,022	83.2
a. Physical Category A	195,866	35.3	79,428	55.1
b. Physical Category B	138,261	24.9	40,594	28.1
Disqualified: Total	220,852	39.8	24,202	16.8
c. Administrative reasons	2,644	0.4	103	0.1
d. Failed AFQT (below 10 percentile)	36,487	6.6	5,363	3.7
e. Failed additional mental requirements	8,192	1.5	3,417	2.4
f. Medical reasons	160,459	28.9	13,987	9.7
g. Failed medical and AFQT (below 10 percentile)	10,640	1.9	915	0.6
h. Failed medical and additional mental requirements	2,430	0.5	417	0.3

[a] "Draftees" include registrants forwarded by the local boards (Selective Services System) to the Armed Forces Examining and Entrance Stations (AFEES) for initial preinduction examination ("not previously examined") and registrants forwarded for "direct" induction without a preinduction examination).

[b] "Applicants for enlistment" are confined to "not previously examined" applicants.

Source: Derived from tabulations by the Office of The Surgeon General, Department of the Army, for the "Medical Disqualification Study." (See Appendices B and C.)

The study included some 555,000 draftees, and some 144,000 applicants for enlistment—all of whom have undergone their first examination for determining their

qualification for military service. Of the examined draftees, some 174,000 were disqualified for medical reasons; of the examined applicants, somewhat over 15,000 were so disqualified.[1]

The disqualification rates for medical reasons on initial examination were:

(1) Draftees—31.3%.

(2) Applicants for enlistment—10.6%; this rate is somewhat over one-third of the medical disqualification of the draftees.

This report deals with the disqualifications of draftees. (A separate differential analysis is projected for applicants vs. draftees—to be centered primarily around the diagnostic differences in their medical disqualifications.)

Table 4

Draftees: Disqualification for Military Service for Medical Reasons, by Diagnostic Category, on Initial Examination (1957 - 1958; 1969 - 1970)

Diagnostic Categories	Number Disqualified per 10,000 Examined Draftees	
	1957 - 1958[a]	1969 - 1970[b]
Total Disqualified (All Diagnoses)	2,052	3,127
Psychiatric Disorders	229	233
Neurological Diseases	42	49
Infective and Parasitic Diseases	57	32
Neoplastic Diseases	13	17
Allergic Disorders	130	172
Endocrine System Diseases	28	25
Metabolic Diseases and Avitaminoses	5	6
Blood and Blood-Forming Organ Diseases	3	6
Eye Diseases and Defects	221	187
Ear and Mastoid Process Diseases and Defects	130	209
Circulatory System Diseases	232	399
Respiratory System Diseases (Nontuberculous)	26	31
Digestive System Diseases	137	171
Genitourinary System and Breast Diseases	27	34
Skin and Ceilular Tissue Diseases	72	123
Bones and Organs of Movements Diseases and Defects	335	545
Congenital Malformations	73	145
Failure to Meet Anthropometric Standards	164	545
Miscellaneous Diseases and Defects	128	198

[a]Source: *Qualification of American Youths for Military Service,* Medical Statistics Agency, Office of the Surgeon General, Department of the Army, 1962 (Table XV) (12).

[b]Source: *"Medical Disqualification Study," August 1969 through January 1970 (See Table 3 Footnotes.)*

[1] Table 3, sum of lines f, g, and h. See Ref. 14 for an explanation of the other terms used in the table.

COMPARISON OF CURRENT AND PAST DATA

The past diagnostic data used here for a comparative analysis relate to draftees examined for military service in 1957-58 (Table 4). These were initial examinations. The base population contained some 388,000 draftees, and the number medically disqualified was about 80,000. The 1957-58 medical disqualification rate of draftees on initial examination was 20.5%.

The present diagnostic evaluations are thus based on comparing a past medical disqualification rate of 20.5% on initial examination against a corresponding current rate of 31.3%. The current rate is 1.5 times as high as that of 1957-58. (No past differential diagnostic data are available, by either ethnic group, or education, or other variables.)

BASIC DIAGNOSTIC DATA

Diagnostic Categories

The diagnostic data for the two periods are presented side by side in terms of broad diagnostic categories in Table 4. The disqualification rates are expressed to a base of 10,000 examined draftees, to provide for diagnoses of low frequencies. The total medical disqualification rates are hence shown as 2,052 per 10,000 draftees examined in 1957-1958, and as 3,127 in 1969-1970.

Following down these juxtasposed diagnostic distributions, pronounced increases will be noted in the following diagnostic categories: allergic disorders; ear and mastoid process diseases and defects; circulatory system diseases; digestive system diseases; skin and cellular tissue diseases; bones and organs of movement diseases; congenital malformations; and failure to meet the anthropometric standards.

Definite decreases in disqualification rates are shown for infective and parasitic diseases, and for eye diseases and defects.

Specific Diagnoses

The next step consisted of identifying those individual diagnoses within the diagnostic categories which indicated increases. These detailed diagnostic distributions are presented in Table 5.[1]

From these identified individual diagnoses, those which were primarily accountable for the increased rate were pinpointed and termed "the leading diagnoses accountable for the increase in the medical disqualifications." These leading diagnoses are specified in Table 6 and described in the following section.

[1] These diagnostic distributions are by "presentation codes." More detailed diagnostic distributions are additionally available for the 1969-1970 data based on 3-digit codes.

Table 5

Draftees: Disqualification for Military Service for Medical Reasons, by Diagnosis, on Initial Examination (1957 - 1958; 1969 - 1970)

Diagnosis	Number Disqualified for Medical Reasons per 10,000 Examined Draftees		Prevalence of Disqualifying Defects per 10,000 Examined Draftees[a]
	1957 - 1958	1969 - 1970	1969 - 1970
Total Disqualified (All Diagnoses)	2,052	3,127	3,975
Psychiatric Disorders	229	233	302
Psychoses	10	22	26
Psychoneuroses	57	44	60
Character and Behavior Disorders	149	165	213
Mental Deficiency	13	2	3
Neurological Diseases	42	49	54
Epilepsy	16	18	19
Peripheral Nerve Diseases	8	11	12
Other	18	20	23
Infective and Parasitic Diseases	57	32	36
Tuberculosis, All Forms	20	4	5
Venereal Diseases	2	2	2
Late Effects of Acute Poliomyelitis	25	17	18
Other	10	9	11
Neoplastic Diseases	12	17	19
Malignant Neoplasms	2	2	2
Benign and Unspecified Neoplasms	10	15	17
Allergic Disorders	130	172	188
Asthma	123	139	152
Other	7	33	36
Endocrine System Diseases	28	25	29
Diabetes Mellitus	17	14	16
Other	11	11	13
Metabolic Diseases and Avitaminoses	5	6	8
Blood and Blood-Forming Organ Diseases	3	6	7
Eye Diseases and Defects	221	187	291
Inflammatory Diseases	4	6	7
Refractive Errors	66	33	46
Strabismus	46	16	22
Blindness, Bilateral	3	3	8

(Continued)

[a]"Prevalence" includes all disqualifying defects coded for any examinee. A maximum of three defects were coded. During this period, 77% of the disqualified draftees had one disqualifying defect recorded; 19%, two disqualifying defects; 4%, three disqualifying defects. Former studies indicated for disqualified examinees: 86% with one disqualifying defect; 12%, two; 2%, three. (12)

Table 5 *(Continued)*

Draftees: Disqualification for Military Service for Medical Reasons, by Diagnosis, on Initial Examination (1957 - 1958, 1969 - 1970)

Diagnosis	Number Disqualified for Medical Reasons per 10,000 Examined Draftees		Prevalence of Disqualifying Defects per 10,000 Examined Draftees[a]
	1957 - 1958	1969 - 1970	1969 - 1970
Eye Diseases and Defects *(Continued)*			
Blindness, Unilateral	21	38	74
Defective and Insufficient Vision Not Specifically Defined	55	24	46
Other	26	67	88
Ear and Mastoid Process Diseases and Defects	130	209	263
Otitis Media	73	30	32
Tympanic Membrane Defects	2	18	20
Deafness, Bilateral	10	14	18
Deafness, Unilateral	8	21	27
Defective Hearing	30	112	146
Other	7	14	20
Circulatory System Diseases	232	399	712
Rheumatic Fever and Chronic Rheumatic Heart Diseases	79	23	25
Other Heart Diseases	60	52	108
Hypertension	77	308	559
Varicose Veins, Including Varicocele	11	10	12
Other	5	6	8
Respiratory System Diseases (Nontuberculous)	26	31	36
Digestive System Diseases	137	171	192
Ulcer of the Stomach, Duodenum, and Jejunum	44	48	52
Hernia of the Abdominal Cavity	71	75	84
Orthodontic Appliances	3	23	26
Other	19	25	30
Genitourinary System and Breast Diseases	27	34	42
Diseases of the Urinary System	20	24	27
Diseases of the Male Genital Organs (non-Venereal) and Breast	7	10	15
Skin and Cellular Tissue Diseases	72	123	143
Pilonidal Cysts or Sinus	32	29	35

(Continued)

[a]*"Prevalence" includes all disqualifying defects coded for any examinee.* A maximum of three defects were coded. During this period, 77% of the disqualified draftees had one disqualifying defect recorded; 19%, two disqualifying defects, 4%, three disqualifying defects. Former studies indicated for disqualified examinees: 86% with *one disqualifying defect;* 12%, *two;* 2%, *three.* (12)

Table 5 *(Continued)*

Draftees: Disqualification for Military Service for Medical Reasons, by Diagnosis, on Initial Examination (1957 - 1958; 1969 - 1970)

Diagnosis	Number Disqualified for Medical Reasons per 10,000 Examined Draftees		Prevalence of Disqualifying Defects per 10,000 Examined Draftees[a]
	1957 - 1958	1969 - 1970	1969 - 1970
Skin and Cellular Tissue Diseases *(Continued)*			
Acne Vulgaris	5	19	22
Other	35	75	86
Bones and Organs of Movement Diseases and Defects	335	545	615
Diseases of Bones	43	52	58
Arthritis, Lower Extremities	9	12	14
Arthritis, Other Sites or Generalized, and Rheumatism	12	16	17
Osteochondrosis	12	16	17
Other	10	9	10
Defects of Joints	96	213	237
Knee, Internal Derangement	32	63	70
Intervertebral Disc Displacement	8	11	13
Ankylosis of Joints	8	9	9
Sacroiliac Joint, Affection	6	5	6
Other	42	125	139
Musculoskeletal Diseases and Defects	106	111	129
Curvature of Spine	22	21	25
Flatfoot	42	44	50
Clubfoot	14	15	16
Shortening of Lower Extremities	10	8	10
Other	18	23	28
Amputations	13	18	20
Fingers	11	14	15
Other Extremities	2	4	5
Limitation of Motion	38	54	59
Upper Extremities	12	38	42
Lower Extremities	26	16	17

(Continued)

[a]"Prevalence" includes all disqualifying defects coded for any examinee. A maximum of three defects were coded. During this period, 77% of the disqualified draftees had one disqualifying defect recorded; 19%, two disqualifying defects, 4%, three disqualifying defects. Former studies indicated for disqualified examinees: 86% with one disqualifying defect; 12%, two; 2%, three. (12)

Table 5 *(Continued)*

Draftees: Disqualification for Military Service for Medical Reasons, by Diagnosis, on Initial Examination (1957 - 1958; 1969 - 1970)

Diagnosis	Number Disqualified for Medical Reasons per 10,000 Examined Draftees		Prevalence of Disqualifying Defects per 10,000 Examined Draftees[a]
	1957 - 1958	1969 - 1970	1969 - 1970
Bones and Organs of Movement Diseases and Defects *(Continued)*			
Deformities and Impairments	39	97	112
Spine (including Neck)	5	17	19
Upper Extremities	7	21	23
Lower Extremities	15	42	49
Other and Multiple Sites	12	17	21
Congenital Malformations	73	145	163
Nervous System and Sense Organs	9	25	30
Circulatory System	25	21	22
Digestive System	5	4	4
Genitourinary System	9	39	44
Undescended Testicles	6	35	39
Other	3	4	5
Bones and Joints	19	49	54
Lumbosacral Region	8	37	40
Other	11	12	14
Other Congenital Malformations	6	7	9
Failure to Meet Anthropometric Standards	164	545	628
Underweight (except Malnutrition)	35	110	125
Overweight	116	430	498
Overheight and Underheight	13	5	5
Miscellaneous Diseases and Defects	128	198	247
Abnormal Urinary Constituents of Unspecified Cause	30	86	107
Abnormal X-Ray and Laboratory Findings	17	20	16
Other Symptoms and Ill-defined Conditions	81	92	124

[a]"Prevalence" includes all disqualifying defects coded for any examinee. A maximum of three defects were coded. During this period, 77% of the disqualified draftees had one disqualifying defect recorded; 19%, two disqualifying defects; 4%, three disqualifying defects. Former studies indicated for disqualified examinees: 86%, with one disqualifying defect; 12%, two; 2%, three. (12)

Table 6

Draftees: Leading Diagnoses Accountable for the Increase in the Medical Disqualifications for Military Service, on Initial Examination[a] (1957 - 1958; 1969 - 1970)

Diagnoses	Number Disqualified per 10,000 Examined Draftees		Absolute Increase per 10,000 Examined Draftees	
	1957 - 1958	1969 - 1970	Number	Percent Distribution
Total Disqualified (All Diagnoses)	2,052	3,127	1,075	100.0
Leading Diagnoses: Total	537	1,548	1,011	94.0
Failure to Meet Weight-Height Standards	151	540	389	36.2
Overweight	116	430	314	29.2
Underweight	35	110	75	7.0
Hypertension	77	308	231	21.5
Defects of Joints	96	213	117	10.9
Defective Hearing and Unilateral Deafness	38	133	95	8.8
Congenital Malformations	73	145	72	6.7
Abnormal Urinary Constituents	30	86	56	5.2
Skin and Cellular Tissue Diseases	72	123	51	4.7
Remaining Diagnoses: Total	1,515	1,579	64	6.0

[a]Derived from Table 5.

LEADING DIAGNOSES

Each of the leading diagnoses (Table 6) is discussed in detail as to the probable underlying causes that might have brought about the increase in disqualifications. Some suggestions for desirable action are also advanced.

FAILURE TO MEET THE WEIGHT-HEIGHT STANDARDS

Over one-third (36.2%) of the recent increase in the disqualification of draftees for military service for medical reasons is due to failure of the examinees to meet the current weight-height standards. It is the largest absolute increase attributable to this diagnostic category, which comprises overweight and underweight. Overweight will be evaluated first as it heads the list of the leading diagnoses.

Overweight

General. The disqualification rate for overweight increased from 1.2% (116 per 10,000 examined draftees) in 1957-1958 to a rate of 4.3% (430 per 10,000 examined draftees) in 1969-1970. The current disqualification rate for overweight is 3.7 times as high as it was formerly. In 1957-1958 overweight comprised 5.7% of the medical disqualifications; in 1969-1970 the corresponding percentage was 13.8. Overweight is responsible for 29.2% (between one-fourth and one-third) of the total recent increase in the medical disqualifications.

The increase in the disqualifications for overweight occurred in spite of the fact that during this 1957-1970 period the weight-height standards with respect to overweight was twice revised upward, and quite significantly—first, in the midyear of 1959, and then at the end of 1960. A complete picture of the extent of the differences in the weight-height standards originated by these revisions can be obtained from the juxtaposed weight-height standards, as listed in Table 7 and graphed in Figure 2. (The top five graphs in Figure 2 represent the various "maximum," and the bottom two graphs the "minimum" standards.) These juxtaposed data indicate wide ranges in the differences of weight by height, especially in regard to the maximum weight ("overweight").

Table 7

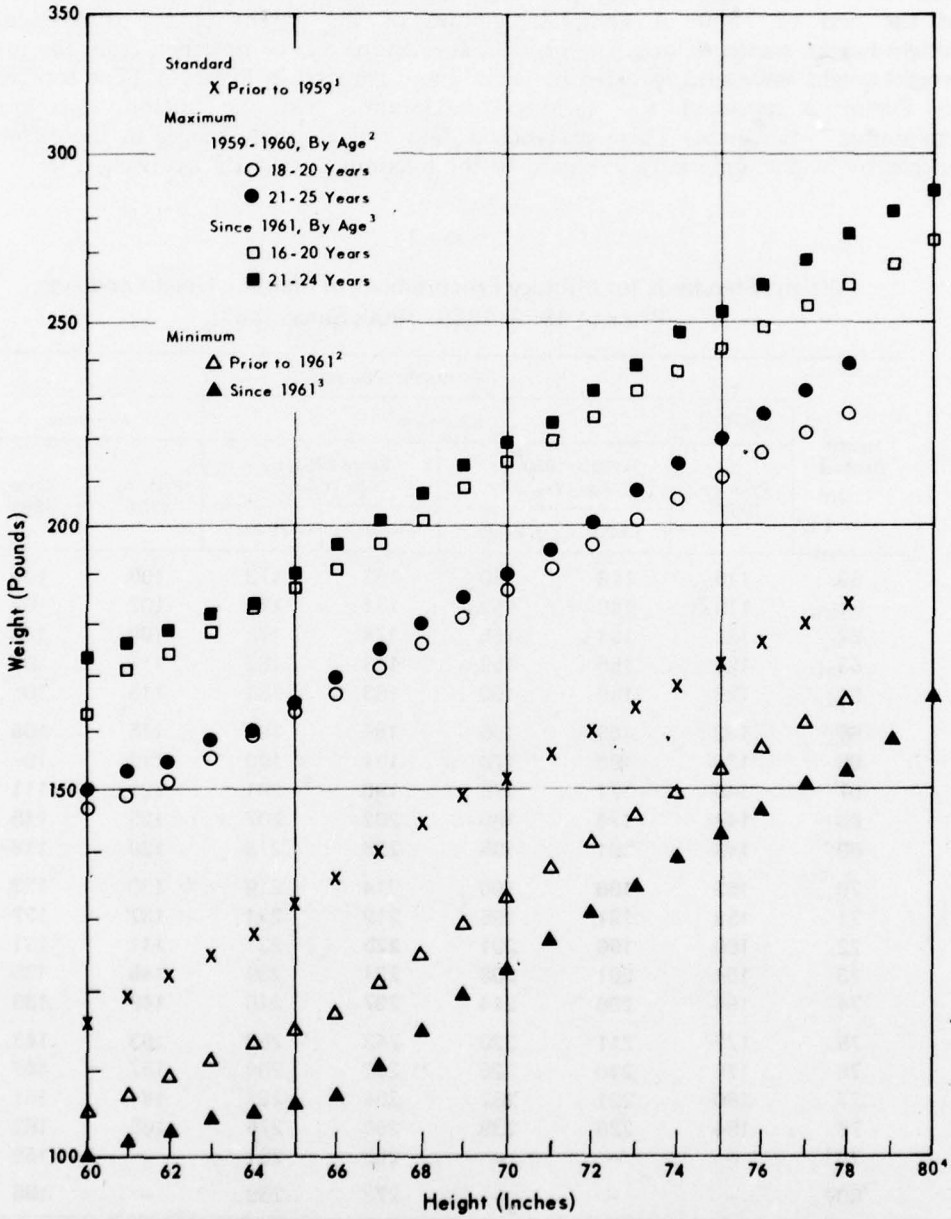
Weight Standards for Military Procurement of Men, by Height and Age (Prior to 1959; 1959 - 1960; Since 1961)

Height (Inches)	Weight (Pounds)						
	Standard	Maximum				Minimum	
	Prior to 1959[a]	1959 - 1960, by Age (Years)[b]		Since 1961, by Age (Years)[c]		Prior to 1961	Since 1961
		18-20	21-25	16-20	21-24		
60	116	146	150	163	173	105	100
61	119	149	153	171	176	107	102
62	122	151	155	174	178	109	103
63	125	155	159	178	182	111	104
64	128	159	160	183	184	113	105
65	132	163	165	187	190	115	106
66	136	166	170	191	196	117	107
67	140	171	175	196	201	121	111
68	144	176	180	202	207	125	115
69	148	181	185	208	213	129	119
70	152	186	190	214	219	133	123
71	156	191	195	219	224	137	127
72	160	196	201	225	231	141	131
73	164	201	208	231	239	145	135
74	168	206	214	237	246	149	139
75	172	211	220	243	253	153	143
76	176	216	226	248	260	157	147
77	180	221	232	254	267	161	151
78	184	226	239	260	275	165	153
79[d]	–	–	–	266	281	–	159
80[d]	–	–	–	273	288	–	166

[a]Effective during World War II up to May 1959 (3; 4; 28). No differentiation of the standards by age.
[b]Effective from May 1959 through December 1960 (4).
[c]Effective since January 1961 (5).
[d]Added in 1968 (5).

The weight-height standards for overweight for individuals 69 inches tall were chosen for illustrative purposes here, as this height is the current modal frequency for

Weight Standards for Military Procurement of Men, by Height and Age (Prior to 1959; 1959-1960; Since 1961)



[1] Effective during World War II up to May 1959 (3,4,28). No differentiation of the standards by age.

[2] Effective from May 1959 through December 1960 (4). Note the minimum during this period was the same as prior to 1959.

[3] Effective since January 1961 (5).

[4] Added in 1968 (5).

Source: Data from Table 7.

Figure 2

draftees. The maximum (or standard) weight standards for these draftees—69 inches in height—were as follows, by period:

(1) Prior to May 1959, as far back as World War II, the "standard" weight was 148 pounds. There was no differentiation in the standards by age.

(2) From May 1959 through 1960, the corresponding maximum standards were 181 pounds for men 18-20 years old, and 185 pounds for men 21-25 years old.

(3) From the beginning of 1961 to date, the maximum standards are 208 pounds for those 16-20 years old, and 213 pounds for those 21-24 years old, indicating further increases of 27 and 28 pounds for these age-groups, respectively, over the immediately preceding standards; and increases of 60 and 65 pounds over the "standard" prior to 1959. (Note the differences in the age-groupings between the 1959-1960 and the current standards.)

When generally compared with weight-height standards prior to 1959, the differences in the maximum standards range from 33 to 55 pounds in 1959-1960, with the largest differences being in the taller statures, and from 56 to 91 pounds for the current standards (again, the largest differences in the taller statures).

There are no indications as to the basis of the weight-height standards prior to 1959. The 1959-1960 and the current (1961) weight-height standards were presumably derived from data on weight-height relationships of youths of military age examined in 1957-1958 (13). Obviously, the changes in standards were intended to "catch up" with the persistently increasing weight of American youths—a fact that has become especially conspicuous of late (11).

Since the weight-height standards were modified to fit the increasing weight, the question to be raised is: Why then the increase in the disqualification for overweight? The explanation seems to be principally rooted in the interpretation of the standards and in their application.

Changes in the Interpretation of the Standards. Prior to May 1959, the weight-height regulations appeared to have been concerned more with the "minimum" than with the "maximum" standards. The term "maximum" was not used then, and the tables of weight by height were expressed in terms of "standard" and "minimum." The regulations of that period allowed much leeway in the interpretation of the standards, by stating that individuals "whose weight is greater than the standards indicated for the height" are acceptable "provided the overweight is not so excessive as to interfere with military training."

The general considerations were that the examining physician would use discretion and judgment with respect to weight-height in accepting registrants with variations from the established standards. The regulations stated that "when the weight is disproportionate and is believed to be due to some temporary condition, proper allowances may be made provided it is the opinion of the examining physician that the variation is correctible with proper food and military training" (AR 40-503, May 1956, par. 16-18) (4). It may be said, accordingly, that during that period the examining physicians had carte blanche in interpreting the standards.

The 1959-1960 weight-height standards were expressed for the first time in terms of "maximum" and "minimum." With respect to "maximum," the regulations provided that the standards be used by "the examining medical officer as a guide"—ostensibly, not less flexible than the preceding standards. However, certain quantitative restrictions were imposed for applying the maximum standards. An individual could be qualified for military at the discretion of examining medical officer only if his weight was less than 15% above the maximum; otherwise, the individual's records were to be

forwarded to the Surgeon of the Army Area, where the examination took place, for review prior to induction (AR 40-503, Change 3, par. 16 (4).

Moreover, a provision relating to body build was added then to the regulations requiring that it be recorded as "light, medium, or heavy, and also (if the individual is obese) as obese" (AR 40-503, Change 3, par. 15) (4). This provision was apparently intended as an additional criterion for evaluating weight by height.

No such flexibility has been currently provided. The current regulations state flatly that "weight related to age and height which is in excess of the maximum shown in table 1, appendix III, for men" is a cause for rejection (AR 40-501, par. 2-22b) (5). (The current weight-height maximum standards are the same as those of 1959-1960, raised by 15% over the former maximum—left then to the discretion of the examining medical officer, but now incorporated as absolute standards.) Under the current regulations, an individual may be disqualified even though he is within the "maximum" standards: "When the medical examiner considers that the individual's weight in relation to the bony structure and musculature constitutes obesity of such a degree as to interfere with the satisfactory completion of prescribed training" (AR 40-501, par. 2-23e) (5).

Flexible within the maximum limits, the current regulations are manifestly "absolute" outside the maximum limits. The absoluteness ("inflexibility") of the present weight-height regulations with regard to overweight obviously compels the AFEES to comply with the standards, especially, when confronted by knowledgeable draftees. Moreover, it provides wider opportunities for "purposive overweight," as practiced by certain draftees to avoid military service.

Further Increase in Weight. Current data, based on the "Medical Disqualification Study" (August 1969 - January 1970), seem to point to further increase in the weight of American youths of military age. Weight-height relationships, like those published for 1957-1958 (13), based on the present data appear to indicate that the current weight-height standards would disqualify about 4.5% of the draftees for overweight, in line with the actual disqualifications for overweight.

Overweight Under the Medical Remedial Enlistment Program (MREP). Under the "Medical Remedial Enlistment Program" (MREP), which is a part of Project 100,000, draftees can qualify in the Armed Forces—on a voluntary basis—even if their weight is 20% over the current prescribed maximum standards for a particular height (14). (This also applies to applicants for enlistment.) However, only 7.4% of the "overweight draftees" who were eligible under MREP applied for voluntary induction, and only 3% of these eligibles entered the military service. For obvious reasons, MREP has been by far more successful with respect to "overweight applicants" for enlistment; some 50% of the eligibles applied, and some 40% of the eligibles actually entered the service (15).

Since it appears that some 4.5% of the currently examined draftees would be disqualified for overweight under the prevailing weight-height standards, the logical question is: Can a military procurement policy tolerate such a relatively high disqualification rate for overweight alone? The answer may depend in part on an evaluation of the "overweight youths" (draftees and enlistees) who qualified and entered the Armed Forces under the MREP standards (Project 100,000), as to their success or failure in the military service, when compared with other inductees or enlistees.

Underweight

In addition to "overweight," which is the principal individual diagnostic cause for the recent increase in the medical disqualifications for military service, there has been a substantial increase in the disqualifications for "underweight," although the current (1961) minimum standards are lower than those prior to 1961. For the bulk of the various heights, the current minimum weights are 10 pounds less than previously. This

comprises individuals between 66 and 77 inches in height, that is, some 84% of the examined draftees. (For a complete picture of the minimum standards, see Table 7 and Figure 2.)

The disqualification rate for "underweight" increased from 0.4% (35 per 10,000 examined draftees) in 1959-1958 to 1.1% (110 per 10,000 examined draftees) in 1969-1970—an absolute increase of about 0.7% (Table 6). Disqualification rate for underweight thus tripled of late and is responsible for 7.0% of the recent increase of the medical disqualifications (Table 6).

As in case of "overweights," certain "underweights" qualify under MREP—namely, individuals whose underweight does not exceed 10% of the prescribed minimum for a particular height. Of the "underweight draftees" eligible under MREP, some 7% applied and 1.5% entered the military service; of the "underweight applicants" eligible under MREP, some 54% applied and some 38% enlisted (15). The "underweights" under MREP should be evaluated as to their success or failure in the military service, as was suggested for "overweights."

Re-evaluation of the Weight-Height Standards

Concurrently with evaluation of the MREP experience with respect to overweight and underweight recruits, both the current weight-height standards and those that would result under the MREP requirements—by adding 20% to the current maximum standards and reducing the current minimum by 10%—should be examined on the basis of the current actual weight-height distributions. The findings from such concurrent studies should serve as a fundamental basis for re-evaluating the current weight-height standards. Of course, the current weight-height distributions are to some degree biased by "purposive overweight," as alluded to before, as well as by "purposive underweight."

Generally, in setting weight-height standards, the key question might be whether such standards should be based on some "ideal" ("desirable") standards derived from certain health criteria (basically, mortality criteria), or should be based on the prevalent actual weight-height distributions, permitting a certain percentage to fall outside the fixed standards—say 2 to 5%—as dictated by prevailing military manpower needs. (These underlying principles—"ideal" versus "actual"—are equally applicable to other standards where the degree of the medical defect can be quantitatively assessed, as in vision, hearing, hypertension, and like defects.)

Perhaps additional criteria should be applied in judging overweight or underweight—not confined solely to the weight-height relationship.

HYPERTENSION

Changed Standards

Hypertension is the second leading single diagnosis accountable for the recent increase in the medical disqualifications for military service (Table 6). The medical disqualification data for 1957-1958 indicate that 0.8% of the draftees (77 per 10,000 examined draftees) were disqualified for hypertension during that period, whereas the current disqualification rate for hypertension is about 3.1% (308 per 10,000 examined draftees), an absolute increase of somewhat over 2%.

On a relative basis, the current disqualification rate for hypertension is about four times as high as it was formerly. The increase due to hypertension constitutes somewhat over one-fifth (21.5%) of the total recent increase in the medical disqualifications.

Paradoxically, the reported increase in the disqualification for hypertension is lower than could have been anticipated had a proper quantative evaluation been made at the

time when the current standards for hypertension were established. Prior to 1961, when the current standards became effective, and as far back as 1948, the military standards of blood pressure for "non-acceptable" read as follows:

> "Persistent blood pressure at rest above 150-mm systolic or above 90-mm diastolic. If the blood pressure reading is somewhat (10- 20-mm) above 150-mm systolic on the first reading, it should be repeated after ½-hour's rest recumbent" (AR 40-115, par. 58i, 1948; AR 40-503, par. 54i, 1956) (3, 4).

The corresponding current disqualification standards are:

> "Hypertension evidenced by persistent blood pressure readings of 150-mm or more systolic in an individual over 35 years of age, or persistent reading of 140-mm or more systolic in an individual 35 years of age or less. Persistent diastolic pressure over 90-mm diastolic is cause for rejection at any age" (AR 40-501, Chapter 2, par. 2-19b, 1961). (The term "persistent" was subsequently changed to "preponderant.") (5)

Obviously, on the basis of the age differential introduced in the current blood pressure standards, the draftees, being of younger ages—their mean age is about 20.5 years and about two-thirds of them are within the 19-20 age group—fall within the blood pressure category of 140-mm. Hg. systolic/91-mm. Hg. diastolic. As a result of these changes in the blood pressure standards, draftees with systolic blood pressure measurements between 140-mm. Hg. and 150-mm. Hg., who previously qualified for military service, are now to be disqualified. (The disqualification standards for diastolic blood pressure remained unchanged.) Because of the elimination of draftees with such systolic blood pressure, a higher disqualification rate for hypertension was to be expected. However, as will be shown, the actual increase in the disqualification for hypertension is far lower than that expected.

Understated (Under-Recorded) Blood Pressure Measurements at AFEES

A recent study conducted by the National Center for Health Statistics (NCHA) on blood pressure of adults, by age and sex (24), shows that somewhat over 4% of male youths, aged 18-24, have blood pressure falling within the blood pressure interval of 140-mm. Hg. systolic/90-mm. Hg. diastolic and 150-mm. Hg. systolic/90-mm. Hg. diastolic. It follows from this study, that under the changed standards for hypertension an absolute increase of 4% was to be expected in the disqualification for this condition—an increase about twice as high as that shown by our data. (These changes in the blood pressure standards have somehow been overlooked in general discussions of the basic changes in the medical standards.)

Naturally, the question arising in these circumstances is: Why is the actual increase, as shown by our data, lower than that expected? The answer appears to be understated (under-recorded) blood pressure measurements. There seems to be a definite tendency at the AFEES to record blood pressures at levels lower than they measured, specifically when the blood pressure measurements fall within the blood pressure intervals of the established standards for hypertension. This seemingly has occurred both under the current and the former standards.

Many interrelated factors lead to the tendency of understating blood pressures at the AFEES, and this tendency should not be construed as a reflection on the professional proficiency of the medical examiners, nor should it be ascribed to some hidden administrative policy. Inaccuracies are typical of all blood pressure investigations, so that "blood pressure readings are customarily only approximations" (19), and this problem is made more severe by conditions unique to the medical examinations for military service.

General Factors Affecting Blood Pressure Measurements. The well-recognized factors affecting blood pressure measurements ("recording") may be characterized as "intrinsic" or "extrinsic." The "intrinsic" factors are those that actually affect the blood pressure levels, such as the examinee's age, sex, weight, heredity, ethnic origin, and general state of health, plus transitory factors such as the environmental conditions under which the medical examination is performed and the emotional disturbance caused by the examination. The "extrinsic" factors are those that do not affect the blood pressure per se but do affect the blood pressure readings (recording), such as variability in the accuracy of the measuring instruments, uncertainty in determining the systolic and diastolic phases, variability in the examiner's reaction time to the blood pressure sounds, and variation in reading scales. (1, 2, 10, 19, 28)

Whether "intrinsic" or "extrinsic," these factors are inherent in all blood pressure measurements taken for whatever purpose. Because of such variations, the blood pressure of each examinee in the NCHS study (25) was measured three times during the course of the medical examination and the blood pressure readings were recorded as the average of the three measurements. (It is significant to note that for half of the examinees in the NCHS study, the differences between the highest and the lowest readings of the three measurements were 10-mm. Hg. or more for systolic blood pressure, and at least 6-mm. Hg. for diastolic blood pressure) (24).

Objective of the Military Medical Examination—a Potent Determinant. In the case of the medical examinations at the AFEES, the very objective of the examination—"to qualify or not to qualify" the examinee for military service—represents an additional and evidently a potent factor affecting blood pressure recording. Suppose that the medical examiner at an AFEES reads the examinee's blood pressure as 140-mm. Hg. systolic/90-mm. Hg. diastolic—realizing that such blood pressure disqualifies the individual for military service, while a systolic blood pressure slightly lower, say 2-mm. Hg. lower, qualifies him. At the same time, the medical examiner might be fully aware of the potential deficiencies involved in such readings. Consequently, the examining physician might well be swayed to understate ("under-record") the reading and qualify the individual—not only in such a close case but in many cases where the blood pressure readings might be higher, above the defined standards of hypertension. (Apropos, past studies indicate higher frequencies around blood pressure readings ending in "0." Current data show the same, except for the blood pressure readings of 140-mm. Hg. which is disqualifying; in these cases, relatively higher frequencies are recorded for the blood pressure readings of 138- and 136-mm. Hg., just below the disqualifying standards.)

Cross-Tabulated Distributions Indicating Understated Blood Pressure Recordings at AFEES. The following data, derived from cross-tabulated distributions of draftees by systolic and diastolic blood pressure readings (Table 8), substantiate the prevalence of the under-recording tendency.

These cross-tabulations (on a population base of 10,000) relate to draftees examined in 1959, when the criteria for hypertension were 151-mm. Hg. systolic/91-mm. Hg. diastolic, and to those examined in 1962 under the current criteria of 140-mm. Hg. systolic/91-mm. Hg. diastolic. In these cross-tabulations, the former (1959) systolic blood pressure standards fall within the 145-154 mm. Hg. interval, and the corresponding current (1962) standards fall within the 135-144 mm. Hg. interval. The diastolic blood pressure standards fall now, as before, within the blood pressure interval of 85-94 mm. Hg.

As may be seen from Table 8, in 1959 some 11.5% (1,146 per 10,000 of the examined draftees) were recorded as having blood pressure readings within (145-154 mm. Hg. systolic/85-94 mm. Hg. diastolic—when such blood pressure measurements were qualifying for military service. In 1962, when these blood pressure measurements for men under 35 years of age became disqualifying, these frequencies dropped sharply to 1.4% (137 per 10,000 of the examined draftees).

Table 8

Draftees: Distribution by Systolic and Diastolic Blood Pressure, Age 21-22 (1959, 1962)

BASE: 10,000

mm of Hg		Diastolic Blood Pressure									
		Under 55	55-64	65-74	75-84	85-94	95-104	105-114	115-124	125+	Total
Systolic Blood Pressure	Year: 1959										
	Under 95	1	6	2	--	--	--	--	--	--	9
	95-104	7	71	76	22	3	--	--	--	--	179
	105-114	13	191	425	201	18	1	--	--	--	849
	115-124	14	258	996	1,030	108	2	--	--	--	2,408
	125-134	9	148	808	1,323	308	7	2	--	--	2,605
	135-144	8	98	551	1,234	519	14	4	--	--	2,428
	145-154	3	32	160	473	478	23	6	1	--	1,176
	155-164	--	4	10	29	42	41	12	2	1	141
	165-174	1	3	9	18	18	26	13	3	2	93
	175+	1	3	8	16	19	29	19	11	6	112
	Total	57	814	3,045	4,346	1,513	143	56	17	9	10,000
	Year: 1962										
	Under 95	2	16	5	--	--	--	--	--	--	23
	95-104	10	110	102	34	3	--	--	--	--	259
	105-114	20	268	538	225	19	1	--	--	--	1,071
	115-124	17	346	1,221	1,134	167	4	--	--	--	2,889
	125-134	11	201	1,019	1,435	342	5	1	--	--	3,014
	135-144	6	92	524	1,107	570	14	2	--	--	2,315
	145-154	--	4	24	54	55	22	5	--	--	164
	155-164	1	3	8	29	37	32	9	2	--	121
	165-174	--	2	5	16	16	18	9	2	--	68
	175+	--	2	4	10	15	20	15	5	5	76
	Total	67	1,044	3,450	4,044	1,224	116	41	9	5	10,000

Source: Cross-tabulations derived from blood pressure data as recorded on Standard Form 88 ("Record of Medical Examination") of draftees (disqualified; inducted) examined at the Armed Forces Examining and Induction Stations for military service. Some 60,400 SF 88 were tabulated for the 21-22 age group in 1959, and some 79,600 SF 88 in 1962. The cross-tabulations were accomplished by the Medical Statistics Agency, Office of the Surgeon General, Department of the Army. (The author, while a member of that Agency, has been responsible for the derivation of the data.)

Expressing it differently, according to these data around 85% of the 1959 examinees could have met the current standards; the corresponding frequency in 1962 rose to around 95%. These changed frequencies clearly indicate a strong prevailing tendency of AFEES to understate the blood pressure measurements of draftees with blood pressure higher than the fixed standards of hypertension, and hence overstate the blood pressure of draftees with blood pressure lower than the fixed standards of hypertension.

Results of Tendency to Understate Blood Pressure

Concretely, the net result of this tendency is to lower the disqualification rate for hypertension, and thus increase the percentage of qualified draftees. This might be regarded as beneficial from the quantitative aspect of manpower procurement. But is this the case? In some instances the understated (under-recorded) readings may reflect the "true" readings, due to the various factors affecting such readings, as pointed out above. But in other cases, perhaps in most cases, the understated readings might lead to qualifying individuals who should have been disqualified—assuming, of course, that the hypertension standards have been properly defined. Such a tendency undermines the rationale in setting up standards, which aims to identify and eliminate (a) individuals with medical defects that will make it impossible for them to perform their military duty properly, (b) individuals whose defects may become aggravated by the military service, and (c) individuals whose medical condition(s) may endanger the health of their companions. Hypertension, assuming that it has been accurately defined, involves both (a) and (b).

It is worth mentioning that a study (23) of Army personnel separated from the service for medical defects that existed prior to entry into the military service (EPTS conditions) shows that 6.5% of these individuals were separated for cardiovascular defects—practically all of them for hypertension.

Of equal and critical importance is the fact that this tendency of understating blood pressure is, unintentionally, highly discriminatory. It favors the "sophisticated" and the "knowledgeable" draftees, who have full information on the standards as well as of their health status, and make the medical examiners comply with the standards by whatever means they can muster, such as by presenting medical documents, reporting their defects on their medical history forms (SF 89), and so forth. It places at a disadvantage those draftees who lack such knowledge, due to socioeconomic or other factors. (As will be shown in subsequent evaluations of the medical disqualification by ethnic group, the disqualification of Negroes for hypertension is lower than for whites—2% for Negroes versus 3% for whites—in contrast to what has been generally established, that hypertension is more prevalent among Negroes (2, 7, 12, 18, 25).

Expected Disqualifications for Hypertension

In view of the deficiencies in our data with respect to the blood pressure measurements, the blood pressure data from the NCHS study (24) are taken as basis for projecting expected disqualifications for military service because of hypertension. The expected disqualifications are presented separately under the former (prior to 1961) blood pressure standards of 151-mm. Hg. systolic/91-mm. Hg. diastolic, and under the current standards of 140-mm. Hg. systolic/91-mm. Hg. diastolic.

According to the NCHS study, about 9% of the draftees would be expected to be disqualified under the former blood pressure standards, and about 13% under the current corresponding standards—indeed, high disqualification rates in both instances. Our data indicate by far lower disqualification rates of 1 and 3%, respectively, under these standards. However, our disqualification data are derived from cases in which hypertension was the primary cause of disqualification. As is well known, hypertension is associated with other disqualifying causes, such as overweight and cardiovascular diseases (other than hypertension), in which hypertension is given as a secondary (chiefly) or a tertiary cause of disqualification. Therefore, the prevalence rate of hypertension would be higher than the rate indicated by primary disqualifications. Such current prevalence data—including primary, secondary and tertiary causes—indicate a hypertension prevalence rate of 5.6% (559 per 10,000 examined draftees) (Table 5), about twice as high as the

rate based on primary causes alone but still somewhat less than one-half of the rate shown by the NCHS data.

Pressing Goals

In light of these findings, the following goals certainly appear pressing:

(1) Establishment of appropriate means for obtaining, as far as possible, accurate blood pressure readings.

(2) When this first goal is accomplished and sufficient data become available, a comprehensive study, based on these data, to evaluate the distributions of examinees by systolic and diastolic blood pressure in terms of ethnic group, age, and presumably also weight, in view of the fact that blood pressure is a function of weight as of age (10, 20).

(3) Appraisal of the existing blood pressure standards on the basis of these distributions. Such an appraisal might lead to redefining hypertension, should it indicate potential disqualification rates considered too high from a military manpower-procurement point of view.

(4) Preparation of appropriate blood pressure tables, by age, ethnic group, and, perhaps, weight.

It seems pertinent to repeat at this point what has been expertly stated somewhat over a quarter of a century ago—and still holds now—concerning blood pressure in military medical standards. It was stated then that "the range of the normal blood pressure, both systolic and diastolic, is still not clearly defined; and critical levels, above which it is unsafe or unwise to accept a registrant, have not been established on a sound, factual basis" (8). It is toward this end of obtaining a "sound, factual basis," that definite research, reflecting military experience, needs to be directed. Appropriate follow-up studies within the Armed Forces are highly desirable in this respect, as suggested then (8), and still wanted now.

Establishment of proper blood pressure measurements should result under the present standards in higher disqualification rates for hypertension, unless counterbalanced by lower standards.

DEFECTS OF JOINTS

The disqualifications for defects of the joints rank third as a cause of the recent increase in the medical disqualifications. The disqualification rates for these defects rose from 1.0% (96 per 10,000 examined draftees) to 2.1% (213 per 10,000 draftees)—an absolute increase of 1.2%, and twice as high as formerly. Some 10.9% of the recent increase in the medical disqualifications are accounted for by disqualifications for defects of the joints (Table 6).

The previously mentioned study (23) on men discharged from the Armed Forces for medical defects that existed prior to entry into the service (EPTS) shows that defects of the joints, belonging to the general diagnostic category of "orthopedic defects," constituted some 37% of all EPTS discharges. These are the most elusive defects to be discovered at the AFEES. Somewhat over 49% of these defects were rated "A" (i.e., as conditions that could not have been detected at the AFEES) and about 39% were rated "B" (i.e., as conditions that possibly could have been detected).

The separations for EPTS conditions have been sharply—though not wholly justly—criticized. As a consequence, there has been a manifest effort by the Army Recruiting Command, which has charge of the AFEES, to lower the EPTS rate of discharge by more "cautious" screening. Such an effort has undoubtedly led to some increase in the disqualifications for these defects. In addition, the knowledge of the standards—a fact

that must be emphasized time and again—has its compounding effect in increasing the disqualification rates. It is impossible, of course, to separate the effects of "cautious" screening from those resulting from "sought-for knowledge" of the standards as motivated by negative attitudes towards military service.

Pertinent in this regard also are the publication of Chapter 10 (AR 40-501) early in 1966, dealing with the administrative procedures of the medical examination at the AFEES, and particularly the publication of Chapter 11 (AR 40-501) early in 1967, dealing with the medical examination techniques. Both undoubtedly contributed a great deal toward clarifying the medical standards and have resulted in more "cautious" screening.

DEFECTIVE HEARING

General

The fourth leading cause for the recent increase in the medical disqualification is defective hearing, including unilateral deafness. From a disqualification rate of 0.4% (38 per 10,000 examined draftees), the disqualifications for hearing acuity rose to a rate of 1.3% (133 per 10,000 examined draftees), an absolute increase of about 1.0%. The current disqualification rate for defective hearing is 3.5 times as high as it was previously. The increase due to defective hearing comprises about 9% of total increase in the medical disqualifications during the 1957-1970 period (Table 6).

It has been speculated that some of the increase in the recent disqualifications for defective hearing might be associated with certain environmental factors, namely, highly amplified music in the past decade, or other intensified noises. There might be some truth in this speculative view. However, in evaluating our data, it seems more credible to conclude that the recent higher disqualifications for defective hearing are the combined result of changed procedures established in the AFEES for determining auditory acuity and changed hearing standards of "acceptability."

Changed Hearing Testing

As previously stated, prior to 1961 the governing medical standards were those published in AR 40-503 (4). At that time, auditory determination was made primarily on the basis of the whispered and spoken (conversational) voice. To determine the acuity of hearing by the whispered voice, the medical examiner placed the examinee 15 feet from himself and directed him to repeat promptly the words he heard. Whenever the examinee could not hear the whispered words at 15 feet, the examiner would approach the examinee foot by foot until the latter could repeat the words correctly. The acuity of hearing was then expressed as a fraction, in which the numerator was the distance in feet at which the whispered words were heard by the examinee and the denominator was 15. Thus 15/15 indicated normal hearing; 10/15 indicated that the examinee heard at a 10-foot distance what an individual with normal hearing would hear at 15 feet. The same procedure has been followed when the testing was accomplished on the basis of the spoken (conversational) voice.

During this period (prior to 1961), testing of hearing by audiometer was used only when the auditory acuity proved to be less than 15/15 by the whispered or spoken voice (AR 40-503, par. 23c) (4). Currently, there is no objection to conducting the whispered or the spoken voice tests, but only as a preliminary to the audiometric hearing test (AR 40-501, par. 2-7, and AR 601-270, par. 4-20h (3) (f)) (5, 6).

The shift to the current auditory procedures of testing was clearly intended to provide more accurate auditory determination, resulting, therefore, in higher disqualifications for defective hearing.

Changed Audiometric Standards

In addition to the fact that audiometric testing has become the only determinant of hearing acuity, there has been a change in the audiometric standards for acceptability as such. The audiometric standards are expressed in terms of loss of decibels in the following frequencies: Formerly—500, 1,000, 2,000, 4,000 and 8,000 cycles per second (cps); at the present time, the frequency of 8,000 cps is excluded.

On the basis of these tests, the individuals were formerly profiled with the respect to hearing as H-1, H-2, and H-3, on a progressive scale of loss of hearing.[1] The minimum audiometric standards of acceptability for each of these profile categories were as follows:

(1) Frequencies 500, 1,000, and 2,000 cps; H-1—average loss in each ear not over 15 decibels; H-2—average loss in each ear not over 20 decibels (and not over 25 decibels in any of these frequencies); H-3—average loss in each ear not over 25 decibels (and not over 30 decibels in any of these frequencies).

(2) Frequencies 4,000 and 8,000 cps: H-1—average loss in each ear not over 30 decibels; H-2—average loss in each ear not over 40 decibels (and not over 50 decibels in any of these frequencies); H-3—average loss in each ear not over 60 decibels (and not over 70 decibels in any of these frequencies).

(3) Whenever the average audiometric loss for either ear is greater than those specified above as a maximum loss for each ear (H-3), the average maximum loss for the other ear (better ear) must be not higher than that prescribed for H-1 (AR 40-503; 24a) (4).

In 1962, profile 3 was eliminated for current procurement purposes. (Defects profiled 3 are acceptable under mobilization standards, AR 40-501, Chapter 6, 5). Consequently, H-3 was eliminated. The current minimum audiometric standards of acceptability for both ears are those prescribed above for H-2 (excluding the frequency of 8,000 cps), and for the better ear those specified under (2) above (AR 40-501, Appendix II, Table 1, 5).

Evidently, elimination of examinees in the H-3 profile category should have brought a certain additional increase in the disqualification rate for defective hearing, on top of that caused by the shift in the auditory testing.[2] Their separate effects—that is, to what extent is the increase in defective hearing disqualifications due to the changes in the testing procedures and to what extent is it the result of changed standards—is impossible to determine from the data available. Nor is it possible to rule out some feigned deafness.

Needed Distributions by Audiometric Readings

There can be little doubt as to the superiority of audiometric testing over the former hearing testing by the whispered and spoken voice. However, for a proper evaluation of the audiometric standards, a comprehensive analysis, based on the actual distribution of the examinees by audiometric readings, would be useful. Data for such distributions are available; the needed audiometric data, not coded at present, are recorded on SF 88 (Item 71). (See Appendix C-3.) It seems, thus, highly desirable that

[1] "H" symbolizes "Hearing." See 14, 15 for an explanation of the profiling system.

[2] Elimination of profile 3 has affected other diagnoses as well; see 17 concerning draftees profiled 3, including H-3, who were inducted.

arrangements be made with USAREC to have these data included on its master file, at least for a one-time study. Published data (21, 26) do not provide proper distributions for such an evaluation.

OTHER LEADING DIAGNOSES

The five leading diagnoses discussed—overweight, underweight, hypertension, defects of the joints, and defective hearing—account for over three-fourths (77.4%) of the recent increase in the disqualifications for medical reasons (Table 6). Among the "other leading diagnoses" are the following categories: congential malformations, abnormal urinary constituents, and skin and cellular tissue diseases.

The primary diagnoses among the congenital malformations are defects of bones and joints—specifically, lumbosacral region—and undescended testicles. (Prior to 1966, undescended testicles within the abdominal cavity were acceptable, but they are now rejectable under AR 40-501, Change 15, 5). Thus, the increase in the disqualification for undescended testicles might be attributed to this change in the standards.)

Albuminuria is the principal single diagnosis among the abnormal urinary constituents. (Orthostatic albuminuria, now rejectable, was acceptable prior to 1961.) Acne vulgaris is the primary single diagnosis among the skin and cellular tissue diseases.

TOTAL EFFECTS

Altogether, the above-specified leading diagnoses (including "Other Leading Diagnoses") are responsible for 94.0% of the recent increase in the medical disqualifications; 6.0% are due to the remaining diagnoses (Table 6).

In 1957-1958, these leading diagnoses comprised somewhat over one-fourth (26.2%) of all medical disqualifications; in 1969-1970 they comprised about one-half (49.5%) of the medical disqualifications.

REMAINING DIAGNOSES

Among the "remaining diagnoses" there are undoubtedly some individual diagnoses that would show relatively higher increases in the disqualification rates than those indicated by the "leading diagnoses." "Active orthodontic appliances" might be a case in point. However, these diagnoses are of very low frequencies in the distributions of the disqualifying medical defects.

Some 400 individual medical 3-digit diagnoses are coded. As previously indicated, distributions by these detailed codes are available, to be utilized whenever desired.

LITERATURE CITED

AND

APPENDICES

LITERATURE CITED

1. Burch, George E., and De-Pasquale, Nicolas P. *Primer of Clinical Measurement of Blood Pressure*, C.V. Mosby Company, St. Louis, 1962.
2. Comstock, George W. "An Epidemiologic Study of Blood Pressure Levels in a Biracial Community in the Southern United States," *Am. J. Hygiene*, vol. 65, pp. 271-315, 1957.
3. Department of the Army, Medical Department. *Physical Standards and Physical Profiling for Enlistment and Induction*, Army Regulations, AR 40-115, August 1948, and Changes 1 through 4, 1952-1955.
4. Department of the Army, Medical Service. *Physical Standards and Physical Profiling for Enlistment and Induction*, Army Regulations, AR 40-503, May 1956, and Changes 1 through 3, 1956-1959.
5. Department of the Army, Medical Service. *Standards of Medical Fitness*, Army Regulations, AR 40-501, December 1960, and Changes 1 through 28, 1961-1972.
6. Department of the Army, Personnel Procurement. *Armed Forces Examining and Entrance Stations*, Army Regulations, AR 601-270, March 1969.
7. Dreger, Ralph Mason, and Miller, Kent S. "Comparative Psychological Studies of Negroes and Whites in the United States, 1959-1965," *Psychological Bulletin*, Monograph Supplement, vol. 70, no. 3, Part II, pp. 1-58, 1968.
8. Hillman, Charles C., Levy, Robert L., Stroud, William D., and White, Paul D. "Studies of Blood Pressure in Army Officers," *J. Amer. Medical Assoc.*, vol. 125, pp. 699-701, July 8, 1944.
9. Karpinos, Bernard D. "Evaluation of the Physical Fitness of Present Day Inductees," *U.S. Armed Forces Med. J.*, vol. 4, pp. 415-430, 1953.
10. Karpinos, Bernard D. "Blood Pressure and Its Relation to Height, Weight, Race, and Age—World War II," *Am. J. Hygiene*, vol. 68, pp. 288-311, 1958.
11. Karpinos, Bernard D. "Current Height and Weight of Youths of Military Age," *Human Biology*, vol. 33, pp. 335-354, 1961.
12. Karpinos, Bernard D. *Qualification of American Youths for Military Service*, Medical Statistics Agency, Office of the Surgeon General, Department of the Army, 1962.
13. Karpinos, Bernard D. "Current Weight-Height Relationships of Youths of Military Age," *Am. Stat. Assoc. J.*, vol. 57, pp. 895-905, 1962.
14. Karpinos, Bernard D. *Results of Examination of Youths for Military Service, 1967*, Supplement to *Health of the Army*, December 1968.
15. Karpinos, Bernard D. *Results of Examination of Youths for Military Service, 1968*, Supplement to *Health of the Army*, June 1969.
16. Karpinos, Bernard D. *RBJ—An Evaluation*, Medical Statistics Agency, Office of the Surgeon General, Department of the Army, 1970.

17. Karpinos, Bernard D. , and Souther, Grace. "Limiting Defects of Army Inductees in Physical Categories B and C," *U.S. Armed Forces Med. J.*, vol. 7, pp. 1791-1801, 1956.

18. Langford, Herbert G., Watson, Robert L., and Douglas, Ben H. "Factors Affecting Blood Pressure in Population Groups," *Transactions of the Assoc. Am. Physicians*, vol. 61, pp. 135-146, 1968.

19. Master, Arthur M., Dublin, Louis I., and Marks, Herbert H. "The Normal Blood Pressure Range and Its Clinical Implications," *J. Am. Medical Assoc.*, vol. 143, pp. 1464-1470, 1950.

20. Master, Arthur M., and Lasser, Richard P. "The Relationship of Pulse Pressure and Diastolic Pressure to Systolic Pressure in Healthy Subjects, 20-94 Years of Age," *Am. Heart J.*, vol. 70, pp. 163-171, 1965.

21. Post, R.H. "Hearing Acuity Variation Among Negroes and Whites," *Eugenics Quarterly*, vol. 11, pp. 65-81, 1964.

22. "Rx for Draft Dodging," *Newsweek*, vol. 76, pp. 42-43, August 3, 1970.

23. Sgalitzer, George W. "Medical Defects that Existed Prior to Entry Into the Armed Forces: A Review of 10,010 Cases," *Military Medicine*, vol. 134, pp. 454-456, June 1969.

24. U.S. Department of Health, Education and Welfare. *Blood Pressure of Adults by Age and Sex, United States, 1960-1962*, National Center for Health Statistics, Series 11, Number 4, 1964.

25. U.S. Department of Health, Education and Welfare. *Blood Pressure of Adults by Race and Area, United States, 1960-1962*, National Center for Health Statistics, Series 11, Number 5, 1964.

26. U.S. Department of Health, Education and Welfare. *Hearing Levels of Adults, by Education, Income, and Occupation, United States, 1960-1962*, National Center for Health Statistics, Series 11, Number 31, 1968.

27. War Department. *Standards of Physical Examination During Mobilization*, Mobilization Regulations, MR 1-9, 1944.

28. Wright, Irving S., Schneider, Ralph F., and Ungerleider, Harry E. "Factors of Error in Blood Pressure Readings," *Am. Heart J.*, vol. 16, pp. 469-476, 1938.

Appendix A

MEMORANDUM REGARDING APPLICATION OF MEDICAL STANDARDS

Memorandum from the Assistant Secretary of Defense (Manpower and Reserve Affairs) for The Secretaries of the Military Departments. Subject: Application of Medical Standards at Armed Forces Examining and Entrance Stations and at Reception Centers of the Services (dated 14 July 1967).

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D. C. 20301

COPY

Appendix A

MANPOWER AND
RESERVE AFFAIRS

14 July 1967

MEMORANDUM FOR THE Secretaries of the Military Departments

SUBJECT: Application of Medical Standards at Armed Forces Examining and Entrance Stations and at Reception Centers of the Services

Results of preinduction examinations of draftees for military service in 1966 reveal that a much greater percentage of whites are disqualified for medical reasons than are Negroes in all geographical areas of the United States. Other available evidence indicates that medical rejection rates are also much higher for college graduates, generally, than for men with lesser educational achievement. These findings appear to be inconsistent with the general assumption that groups in the population with less access to medical services and lower standards of living are more likely to suffer from certain types of medical disabilities.

It is also noted that a wide variation exists among the four Services in the attrition rate due to medical reasons during basic training.

These findings indicate the need for a thorough study of the adequacy and consistency of application of current medical examination procedures both at the AFEES and at the reception centers of the four Services. The objectives of the study will be to determine the causes of the observed differences in medical disqualification rates among the various population groups screened and in medical attrition rates, and to recommend any desirable changes in medical examination procedures, and in organization and management of the medical examination system.

The study will include two major aspects: (1) a comprehensive statistical analysis of medical rejections, of medical discharges for pre-existing conditions, and of in-service incidence of medical conditions among various population groups, and (2) a survey of organization and medical examination procedures at selected AFEES and reception centers. The statistical study will be directed by Dr. Wool of my office. I have asked the Assistant Secretary of Defense (Administration) to conduct the organizational and procedural aspect of the study with appropriate medical professional advice and support. The properly examine resources applied to medical examinations, the over-all organization, management costs and staffing patterns of AFEES and reception centers will be reviewed in addition to the review of medical examination procedures at these facilities.

Although the statistical analysis portion of the study may require a longer period, it is hoped to complete the organization and procedural survey within five or six months.

Cognizance over the study effort will be maintained by the Deputy Assistant Secretary of Defense (Manpower). The study will require participation by the Military Departments to provide data and to provide study group support. Every effort will be made to hold resource requirements to a minimum consistent with the needs for a definitive study in this area.

It is requested that you advise General Lampert of a point of contact with whom you may be kept abreast of progress on this endeavor. I would appreciate receiving your designation by c.o.b., 19 July.

Thomas D. Morris

Appendix B

MEDICAL DISQUALIFICATION STUDY: ITEMS REQUESTED

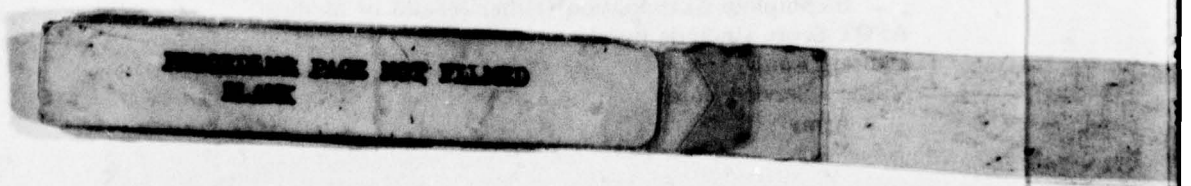
These items were worked up as pertinent variables for this study.

All items under B (1) are put on magnetic tape by Headquarters, U.S. Army Recruiting Command (USAREC). The tape is submitted to the Surgeon General's Office, Department of the Army, for tabulation purposes. (See "Planned Tabulations," Appendix D.)

All items under B (2) for medically disqualified examinees are coded on "scan sheets" by the Surgeon General's Office, Army, and then matched (by coded identifying items) and linked with the other corresponding data on the magnetic tapes. (For detailed description see text, "Plan of the Study").

These procedures are still in force.

(The requested data and the planned tabulations were worked up by the author while with the Surgeon General's Office.)



Appendix B

MEDICAL DISQUALIFICATION STUDY: ITEMS REQUESTED

B (1)

Social Security Number or other identification
AFEES
Month and Year of Current Examination
Selective Service Number
Military Service Applied
- Army
- Navy
- Marine Corps
- Air Force
- NA

Geographic Region
Age (as of last birthday)
Race
Marital Status
Citizenship
Conscientious Objector
Education: Highest Grade or College Year Completed
Type of Examinee
- Draftee—Preinduction: Not-Previously Examined
- Draftee—Preinduction: Previously Examined
- Inductee—Qualified Preinductee: Physical Inspection
- Inductee—Qualified Preinductee: Lapse of Time (Complete medical reexamination)
- Applicant for Enlistment: Not-Previously Examined
- Applicant for Enlistment: Previously Qualified
- Conscientious Objector (I-O)

Results of Examination
- Qualified: Physical Category A
- Qualified: Physical Category B
- Disqualified Administratively
- Disqualified: Failed AFQT (below 10 percentile)
- Disqualified: Failed Additional Mental Requirements
- Medically Disqualified
- Failed Medical and AFQT
- Failed Medical and Additional Mental Requirements
- Incomplete Examination (either Mental or Medical)

AFQT Score (Include number of test)
Mental Group
Military Service Entered
- Army
- Navy

Marine Corps
Air Force
Height
Weight
Blood Pressure (Sitting):
Systolic
Diastolic

B (2)

Date of Examination
Identification Number
Defects (1st)
Defects (2nd)
Defects (3rd)
Medically Disqualified
Y designation
Z designation
Not Applicable
Supporting Evidence

Appendix C

SOURCE OF DATA: FORMS

C(1) DD Form 47, Record of Induction
C(2) DD Form 4, Enlistment Contract—Armed Forces of the United States
C(3) Standard Form 88, Report of Medical Examination
C(4) Standard Form 89, Report of Medical History

Appendix C (1)

RECORD OF INDUCTION

Form Approved
Budget Bureau No. 22-R003.6

DO NOT DEFACE THIS STAMP

(Local Board of Origin Stamp)

SECTION I - GENERAL (Local Board Will Prepare From Latest Information Available)

1. LAST NAME - FIRST NAME - MIDDLE NAME

2. SERVICE NUMBER (To be entered by Induction Station)

3. HOME OF RECORD (Number and street or rural route - If none so state - city or post office, county and state) (To be entered by Induction Station)

3a. CURRENT ADDRESS

4. SELECTIVE SERVICE NUMBER

5. DATE OF BIRTH — DAY | MONTH | YEAR

6. MARITAL STATUS — ☐ SINGLE ☐ MARRIED ☐ DIVORCED ☐ WIDOWED

7. DEPENDENTS — a. NO. CHILDREN UNDER 18 | b. OTHER DEPENDENTS (Exclusive of wife, if married, and children indicated in Item 7a)

8a. PRIOR MILITARY SERVICE ☐ YES ☐ NO (If "Yes", Complete Items Below)

b. ARMED FORCE — ☐ ARMY ☐ NAVY ☐ AIR FORCE ☐ MARINE CORPS ☐ COAST GUARD

c. COMPONENT — ☐ REGULAR ☐ USAR ☐ RES ☐ NG

d. SERVICE NUMBER

e. DATE OF ENL., IND., APT AND/OR ORDER TO ACTIVE DUTY

f. DATE OF DISCHARGE OR RELEASE

g. CHARACTER OF DISCHARGE OR SERVICE

h. REASON AND AUTHORITY FOR DISCHARGE OR RELEASE (Cite appropriate service regulation)

9a. PRESENT CIVILIAN TRADE OR OCCUPATION (Type of business)

b. LENGTH OF EXPERIENCE — YEARS | MONTHS

10. EDUCATION

GRADE OR YEAR COMPLETED (Line through all grades or years successfully completed) (Exclude trade or business schools)	ELEMENTARY AND HIGH SCHOOL												COLLEGE				POST GRADUATE			
	NONE	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	1	2	3	4

11. PLACE OF BIRTH

12a. U.S. CITIZEN ☐ YES ☐ NO

IF NOT A U. S. CITIZEN

b. DATE OF ENTRY INTO U.S. FOR ☐ PERMANENT ☐ TEMPORARY RESIDENCE

c. ALIEN REGISTRATION RECEIPT CARD NUMBER

d. FOREIGN COUNTRY OF WHICH CITIZEN

13. IF NATURALIZED CITIZEN, GIVE DATE, PLACE, COURT OF JURISDICTION AND NATURALIZATION NUMBER

13a. CONVICTED OR ADJUDICATED OF CRIME OTHER THAN MINOR TRAFFIC VIOLATION (If "Yes", specify crime, date, location of court and sentence) ☐ YES ☐ NO

b. NOW IN CUSTODY OF LAW ☐ YES ☐ NO

IF ANSWER IS "YES", IS NECESSARY RELEASE OR WAIVER ATTACHED? ☐ YES ☐ NO

14. CONSCIENTIOUS OBJECTOR ☐ CLASS I-A-O ☐ CLASS I-O

15. PREVIOUSLY EXAMINED AND NOT ACCEPTABLE ☐ YES ☐ NO (If "Yes", indicate the following) (Check one)

☐ NOT ACCEPTABLE ON PREINDUCTION ☐ NOT ACCEPTABLE ON INDUCTION ☐ NOT ACCEPTABLE ON ENLISTMENT

SECTION II - LOCAL BOARD MEDICAL INTERVIEW

16. PHYSICAL DEFECTS (To be completed by Local Board)

a. LIST ALL DEFECTS AND DISEASES CLAIMED BY THE REGISTRANT AND ANY DEFECTS OR DISEASES WHICH THE REGISTRANT MAY HAVE, AND WHICH ARE KNOWN TO THE LOCAL BOARD (If no defects, indicate by "None")

b. ARE ANY OF THE DEFECTS OR DISEASES LISTED IN ITEM "a" ABOVE INCLUDED IN LIST OF DEFECTS (Par 1629, SS Reg)? ☐ YES ☐ NO

c. REGISTRANT OR AFFIDAVIT REFERRED TO LOCAL BOARD MEDICAL ADVISOR ☐ YES ☐ NO

17. STATEMENT OF LOCAL BOARD MEDICAL ADVISOR (To be Completed if Item 16c is "Yes")

FINDINGS:

a. ☐ REGISTRANT DOES NOT HAVE DISQUALIFYING DEFECT(S) CLAIMED

b. ☐ REGISTRANT HAS THE FOLLOWING DISQUALIFYING DEFECT OR DEFECTS (Specify the principal disqualifying defect first, list all other defects in order of significance, and attach affidavits or statements)

c. REMARKS

DATE	PLACE	SIGNATURE OF LOCAL BOARD MEDICAL ADVISOR (When Item 16c is "Yes")
		SIGNATURE OF MEMBER OR CLERK OF LOCAL BOARD (When Item 16c is "No")

DD FORM 1 NOV 50 47 PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE.

Appendix C (1) *(Continued)*

SECTIONS III THROUGH X OF THIS FORM WILL BE FILLED OUT AT INDUCTION STATION

SECTION III - MEDICAL DETERMINATION

NOTE: Changes in physical profile or physical category on SF 88 will be entered on separate lines under original determination

18. DATE	PHYSICAL PROFILE SERIAL						PHYSICAL CATEGORY			
	P	U	L	H	E	S	A	B	C	E

SECTION IV - ORDER OF REGISTRANTS SERVICE PREFERENCE

19. PLACE ORDER OF PREFERENCE NUMBER IN BOX

☐ ARMY ☐ NAVY ☐ MARINE CORPS ☐ COAST GUARD ☐ AIR FORCE ☐ NONE

SECTION V - MENTAL DETERMINATION

20a. TEST - FORM - SCORE	AFQT MENTAL GROUP	I	II	III	IV	V	☐ ADMINISTRATIVELY ACCEPTED

20b. OTHER TEST(S)	SCORE
	☐ QUALIFYING ☐ NONQUALIFYING

SECTION VI - MORAL DETERMINATION

21. REGISTRANT HAS BEEN PERSONALLY INTERVIEWED AT TIME OF:

a. ☐ PREINDUCTION - REVEALED COURT ADJUDICATION OR CONVICTION ☐ YES* ☐ NO WAIVER: ☐ NOT REQUIRED ☐ GRANTED ☐ NOT GRANTED ☐ NOT PROCESSED

b. ☐ INDUCTION - REVEALED COURT ADJUDICATION OR CONVICTION ☐ YES* ☐ NO WAIVER: ☐ NOT REQUIRED ☐ GRANTED ☐ NOT GRANTED ☐ NOT PROCESSED

*Except minor traffic violations. REMARKS:

SECTION VII - DETERMINATION AT PREINDUCTION EXAMINATION

22. THE QUALIFICATIONS OF THE ABOVE NAMED REGISTRANT HAVE BEEN CONSIDERED IN ACCORDANCE WITH THE CURRENT REGULATIONS GOVERNING THE ACCEPTANCE OF SELECTIVE SERVICE REGISTRANTS AND HE WAS THIS DATE:

a. ☐ FOUND ACCEPTABLE FOR INDUCTION INTO THE ARMED FORCES

b. ☐ FOUND NOT ACCEPTABLE FOR INDUCTION INTO THE ARMED FORCES FOR THE FOLLOWING REASONS:

ADMINISTRATIVE: ☐ MORAL ☐ ALIEN ☐ OTHER ADMINISTRATIVE (Specify):

☐ TRAINABILITY LIMITED (V-O)

☐ FAILED AFQT ONLY ☐ FAILED AFQT AND MEDICAL

FAILED MEDICAL ONLY: ☐ PSYCHIATRIC ☐ OTHER MEDICAL

DATE	PLACE

TYPED NAME, GRADE, AND ORGANIZATION OF CO OF INDUCTION STATION	SIGNATURE

SECTION VIII - DETERMINATION AT INDUCTION EXAMINATION

23. TYPE OF EXAMINATION (Check one):

☐ PHYSICAL INSPECTION ☐ COMPLETE MEDICAL EXAMINATION (Due to lapse of time) ☐ COMPLETE MEDICAL AND MENTAL EXAMINATION (Delinquents, parolees, volunteers, etc.)

a. ☐ FOUND ACCEPTABLE FOR INDUCTION INTO THE ARMED FORCES

b. ☐ FOUND NOT ACCEPTABLE FOR INDUCTION INTO THE ARMED FORCES FOR THE FOLLOWING REASONS:

ADMINISTRATIVE: ☐ MORAL ☐ ALIEN ☐ OTHER ADMINISTRATIVE (Specify):

☐ TRAINABILITY LIMITED (V-O)

☐ FAILED AFQT ONLY ☐ FAILED AFQT AND MEDICAL

FAILED MEDICAL ONLY: ☐ PSYCHIATRIC ☐ OTHER MEDICAL

DATE	PLACE

TYPED NAME, GRADE AND ORGANIZATION OF CO OF INDUCTION STATION	SIGNATURE

SECTION IX - DISPOSITION OF INDUCTEE BY ARMED FORCES

24. THE QUALIFICATIONS OF THE ABOVE-NAMED INDIVIDUAL HAVE BEEN CONSIDERED IN ACCORDANCE WITH CURRENT REGULATIONS GOVERNING THE ACCEPTANCE OF SELECTIVE SERVICE REGISTRANTS AND HE WAS INDUCTED INTO:

☐ ARMY ☐ NAVY ☐ MARINE CORPS ☐ COAST GUARD ☐ AIR FORCE

e. DATE OF INDUCTION

AND ORDERED TO REPORT TO:

a. ORGANIZATION	c. LOCATION	d. DATE

e. INDUCTION STATION AT WHICH INDUCTED

TYPED OR STAMPED NAME AND GRADE OF INDUCTION OFFICER	SIGNATURE OF INDUCTION OFFICER

SECTION X - FINGERPRINTS OF RIGHT HAND *(Fingerprint impressions will be made in this space in the case of every person inducted)*

1. THUMB	2. INDEX	3. MIDDLE	4. RING	5. LITTLE

GPO : 1966

ENLISTMENT CONTRACT – ARMED FORCES OF THE UNITED STATES

(Also to be used by AFEES in conjunction with induction processing as a means of providing data for manpower information reporting systems.)

Form Approved
Budget Bureau No. 22-R0016

1. SERVICE NO./SSAN	2. HIGHEST SCHOOL GRADE COMPLETED	3. RATE/GRADE	4. BRANCH/CLASS AND COMPONENT		5. LAST NAME - FIRST NAME - MIDDLE NAME
6. DATE OF ENL/INDUC	7. TERM OF ENLISTMENT/INDUC _____ YEARS ☐ MINORITY		8a. MARITAL STATUS	8b. NO. DEPEND	9. NAME & LOCATION OF ACTIVITY EFFECTING ENLISTMENT/ REENLISTMENT/INDUCTION
10. AFQT SCORE	11. ENLISTED/REENLISTED/INDUCTED ☐ 1st ENLIST ☐ REENL ☐ INDUCTION				12. AUTHORITY FOR ENLISTMENT/REENLISTMENT/INDUC
13. TERM OF ACDU *(Reserve only)* MONTHS	14. ACTIVE/INACTIVE STATUS *(Reserve only)* ☐ RETAINED ON AD ☐ IMMED AD *(within 24 hrs)* ☐ INACTIVE DUTY				15. ACCEPTED AT
16. DATE MIL OBLI INC.	17. PMOS/AFS CODE/MOD	18. RELIGION	19. SSAN		20. CONTRACT DUTY LIMITATIONS
21. DATE OF BIRTH	22. CITIZENSHIP ☐ US ☐ NAT US ☐ COUNTRY *(Specify)*				23. PLACE OF BIRTH *(City, state or country)*
24. DATE OF TRANSFER	25. PHYSICAL PROFILE		26.		27. TRANSFER TO *(Activity and location)* 28.
29. DATE LAST DC/RAD	30. SVC FROM WHICH LAST DISCHARGED	31.			33. TYPE OF LAST DISCHARGE 34.
35. DATE OF RATE/GR	36. SELECTIVE SERVICE NO.		37. RATE/GR APT/RAPT		38. SELECTIVE SERVICE LOCAL BD. *(Bd No., city & state)*
39. BASD/ADBD	40. TOTAL ACTIVE FEDERAL SERVICE _____ YEARS _____ MONTHS _____ DAYS				41. HOME OF RECORD
42. BP ED/PEBD	43. TOTAL INACTIVE FEDERAL SERVICE _____ YEARS _____ MONTHS _____ DAYS				44. MENTAL TEST SCORES
45. SEX 46. RACE	47. DATA PROCESSING CODE				
48.					

49. **PRIOR SERVICE**

BRANCH & CLASS/ ARMED FORCE & COMPONENT	SERVICE NUMBER/ SSAN	DATE ENL. IND. APT. AND/OR OAD	DATE OF DISCHARGE OR RELEASE	GRADE/ RATE OR RANK	TYPE OF DISCHARGE	REASON FOR DISCHARGE	TIME LOST *(No. Days)*

50. I know that if I secure my enlistment by means of any false statement, willful misrepresentation or concealment as to my qualifications for enlistment, I am liable to trial by court martial or discharge for fraudulent enlistment and that, if rejected because of any disqualification known and concealed by me, I will not be furnished return transportation to place of acceptance.

I am of the legal age to enlist. I have never deserted from and I am not a member of the Armed Forces of the United States, the US Coast Guard or any Reserve component thereof; I have never been discharged from the Armed Forces or any type of civilian employment in the United States or any other country on account of disability or through sentence of either civilian or military court unless so indicated by me in item 56, "Remarks" of this contract. I am not now drawing retired pay, a pension, disability allowance, or disability compensation from the government of the United States.

51. SECTION 5538 OF TITLE 10 OF THE UNITED STATES CODE is quoted: "(a) The Secretary of the Navy may extend enlistments in the Regular Navy and the Regular Marine Corps in time of war or in time of national emergency declared by the President for such period as he considers necessary in the public interest. Each member whose enlistment is extended under this section shall be discharged not later than six months after the end of the war or national emergency, unless he voluntarily extends his enlistment. (b) The substance of this section shall be included in the enlistment contract of each person enlisting in the Regular Navy or Regular Marine Corps."

52. SECTION 5540 OF TITLE 10 OF THE UNITED STATES CODE is quoted: "(a) The senior officer present afloat in foreign waters shall send to the United States by Government or other transportation as soon as possible each enlisted member of the naval service who is serving on a naval vessel, whose term of enlistment has expired, and who desires to return to the United States. However, when the senior officer present afloat considers it essential to the public interest, he may retain such a member on active duty until the vessel returns to the United States. (b) Each member retained under this section – (1) shall be discharged not later than 30 days after his arrival in the United States; and (2) except in time of war is entitled to an increase in basic pay of 25 percent. (c) The substance of this section shall be included in the enlistment contract of each person enlisting in the naval service."

53. I understand that, upon enlistment in a Reserve Component of the Armed Forces of the United States, or upon transfer or assignment thereto, I may be ordered to active duty without my consent – for the duration of a war or national emergency declared by Congress and for six months thereafter, or for a period of 24 consecutive months during a period of national emergency declared by the President, or under any other conditions and for such period of time as are presently or hereafter authorized by law. I further understand, as a statutorily obligated member of the Ready Reserve that if I am not assigned to, or participating satisfactorily in, a unit of the Ready Reserve, and have not served on active duty for a total of 24 months, I may be ordered to active duty without my consent, by order of the President, until my total service on active duty equals 24 months, the terms of my enlistment notwithstanding.

DD FORM 4 1 FEB 70 REPLACES DD FORM 4, 1 APR 68, WHICH IS OBSOLETE.

54 I have had this contract fully explained to me, I understand it, and certify that no promise of any kind has been made to me concerning assignment to duty, geographical area, schooling, special programs, assignment of government quarters, or transportation of dependents except as indicated _____

55 I swear *(or affirm)* that the foregoing statements have been read to me, that my statements have been correctly recorded and are true in all respects and that I fully understand the conditions under which I am enlisting.

SIGNATURE OF WITNESS	SIGNATURE OF APPLICANT *(First Name - Middle Name - Last Name)*

56 REMARKS

57 **OATH OF ENLISTMENT** *(For service in Regular or Reserve Component of the Armed Forces except National Guard or Air National Guard)*

I, _____, do hereby acknowledge to have voluntarily enlisted under the conditions
(First Name - Middle Name - Last Name)
prescribed by law, this _____ day of _____, 19 _____, in the _____ for a period of _____ years unless sooner discharged by proper authority; and I do solemnly swear *(or affirm)* that I will support and defend the Constitution of the United States against all enemies, foreign and domestic; that I will bear true faith and allegiance to the same; and that I will obey the orders of the President of the United States and the orders of the officers appointed over me, according to regulations, and the Uniform Code of Military Justice. So help me God.

SIGNATURE

58 **OATH OF ENLISTMENT** *(For service in National Guard or Air National Guard)*

I do hereby acknowledge to have voluntarily enlisted this _____ day of _____, 19_____, in the *(Army)(Air)* National Guard of the State of _____ and as a Reserve of the *(Army) (Air Force)* with membership in the *(Army National Guard of the United States) (Air National Guard of the United States)* for a period of _____ under the conditions prescribed by law, unless sooner discharged by proper authority.
(Years – Months – Days)

I, _____, do solemnly swear *(or affirm)* that I will support and defend the Constitution of the
(First Name - Middle Name - Last Name)
United States and of the State of _____ against all enemies, foreign and domestic; that I will bear true faith and allegiance to them; and that I will obey the orders of the President of the United States and Governor of _____ and the orders of the officers appointed over me, according to law, regulations, and the Uniform Code of Military Justice. So help me God.

SIGNATURE

59 **CONFIRMATION OF ENLISTMENT**

The above oath was subscribed and duly sworn to before me this _____ day of _____, 19_____.
To the best of my judgement and belief, enlistee fulfills all legal requirements, and in enlisting this applicant, I have strictly observed the regulations governing such enlistment. The above oath, as filled in, was read to the applicant prior to subscribing thereto.

TYPED NAME, GRADE/RANK, AND ORGANIZATION OF ENLISTING OFFICER	SIGNATURE OF ENLISTING OFFICER

☆U. S. GOVERNMENT PRINTING OFFICE: 1970—0—403-094

Standard Form 88
(Rev. June 1956)
Bureau of the Budget
Circular A-32 (Rev.)

REPORT OF MEDICAL EXAMINATION

88-100

1. LAST NAME—FIRST NAME—MIDDLE NAME			2. GRADE AND COMPONENT OR POSITION	3. IDENTIFICATION NO.
4. HOME ADDRESS (*Number, street or RFD, city or town, zone and State*)			5. PURPOSE OF EXAMINATION	6. DATE OF EXAMINATION
7. SEX	8. RACE	9. TOTAL YEARS GOVERNMENT SERVICE: MILITARY / CIVILIAN	10. AGENCY	11. ORGANIZATION UNIT
12. DATE OF BIRTH	13. PLACE OF BIRTH		14. NAME, RELATIONSHIP, AND ADDRESS OF NEXT OF KIN	
15. EXAMINING FACILITY OR EXAMINER, AND ADDRESS			16. OTHER INFORMATION	
17. RATING OR SPECIALTY			TIME IN THIS CAPACITY (*Total*)	LAST SIX MONTHS

CLINICAL EVALUATION

NORMAL	(*Check each item in appropriate column, enter "NE" if not evaluated*)	ABNORMAL
	18. HEAD, FACE, NECK AND SCALP	
	19. NOSE	
	20. SINUSES	
	21. MOUTH AND THROAT	
	22. EARS—GENERAL (*Ext. & ext. canals*) (*Auditory acuity under items 70 and 71*)	
	23. DRUMS (*Perforation*)	
	24. EYES—GENERAL (*Visual acuity and refraction under items 59, 60 and 61*)	
	25. OPHTHALMOSCOPIC	
	26. PUPILS (*Equality and reaction*)	
	27. OCULAR MOTILITY (*Associated parallel movements, nystagmus*)	
	28. LUNGS AND CHEST (*Include breasts*)	
	29. HEART (*Thrust, size, rhythm, sounds*)	
	30. VASCULAR SYSTEM (*Varicosities, etc.*)	
	31. ABDOMEN AND VISCERA (*Include hernia*)	
	32. ANUS AND RECTUM (*Hemorrhoids, fistulae*) (*Proctoscopic if indicated*)	
	33. ENDOCRINE SYSTEM	
	34. G-U SYSTEM	
	35. UPPER EXTREMITIES (*Strength, range of motion*)	
	36. FEET	
	37. LOWER EXTREMITIES (*Except feet*) (*Strength, range of motion*)	
	38. SPINE, OTHER MUSCULOSKELETAL	
	39. IDENTIFYING BODY MARKS, SCARS, TATTOOS	
	40. SKIN, LYMPHATICS	
	41. NEUROLOGIC (*Equilibrium tests under item 78*)	
	42. PSYCHIATRIC (*Specify any personality deviation*)	
	43. PELVIC (*Females only*) (*Check how done*) ☐ VAGINAL ☐ RECTAL	

NOTES (*Describe every abnormality in detail. Enter pertinent item number before each comment. Continue in item 73 and use additional sheets if necessary.*)

(*Continue in item 73*)

44. DENTAL (*Place appropriate symbols above or below number of upper and lower teeth, respectively.*)

O—*Restorable tooth* /—*Nonrestorable tooth* X—*Missing tooth* XXX—*Replaced by dentures* (6 X 8)—*Fixed bridge, brackets to include abutments*

RIGHT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	LEFT
	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	

REMARKS AND ADDITIONAL DENTAL DEFECTS AND DISEASES

LABORATORY FINDINGS

45. URINALYSIS: A. SPECIFIC GRAVITY			46. CHEST X RAY (*Place, date, film number and result*)
B. ALBUMIN	D. MICROSCOPIC		
C. SUGAR			
47. SEROLOGY (*Specify test used and result*)	48. EKG	49. BLOOD TYPE AND RH FACTOR	50. OTHER TESTS

MEASUREMENTS AND OTHER FINDINGS

51. HEIGHT	52. WEIGHT	53. COLOR HAIR	54. COLOR EYES	55. BUILD (Check one)	SLENDER	MEDIUM	HEAVY	OBESE	56. TEMPERATURE

57. BLOOD PRESSURE (*Arm at heart level*)						58. PULSE (*Arm at heart level*)				
A SITTING	SYS. / DIAS.	B RECUMBENT	SYS. / DIAS.	C STANDING (5 min.)	SYS. / DIAS.	A. SITTING	B. AFTER EXERCISE	C. 2 MIN. AFTER	D. RECUMBENT	E. AFTER STANDING 3 MIN.

59. DISTANT VISION		60. REFRACTION			61. NEAR VISION	
RIGHT 20/	CORR. TO 20/	BY	S.	CX	CORR. TO	BY
LEFT 20/	CORR. TO 20/	BY	S.	CX	CORR. TO	BY

62. HETEROPHORIA (*Specify distance*)

ES°	EX°	R. H.	L. H.	PRISM DIV.	PRISM CONV. CT	PC	PD

63. ACCOMMODATION		64. COLOR VISION (*Test used and result*)	65. DEPTH PERCEPTION (*Test used and score*)	UNCORRECTED
RIGHT	LEFT			CORRECTED
66. FIELD OF VISION		67. NIGHT VISION (*Test used and score*)	68. RED LENS TEST	69. INTRAOCULAR TENSION

70. HEARING			71. AUDIOMETER								72. PSYCHOLOGICAL AND PSYCHOMOTOR (*Tests used and score*)
RIGHT WV	/15 SV	/15		250 *128*	500 *512*	1000 *1024*	2000 *2048*	3000 *3000*	4000 *4096*	6000 *6144*	8000 *8192*	
LEFT WV	/15 SV	/15	RIGHT									
			LEFT									

73. NOTES (*Continued*) AND SIGNIFICANT OR INTERVAL HISTORY

(*Use additional sheets if necessary*)

74. SUMMARY OF DEFECTS AND DIAGNOSES (*List diagnoses with item numbers*)

75. RECOMMENDATIONS—FURTHER SPECIALIST EXAMINATIONS INDICATED (*Specify*)

76. A. PHYSICAL PROFILE					
P	U	L	H	E	S

77. EXAMINEE (*Check*)

A. ☐ IS QUALIFIED FOR
B. ☐ IS NOT QUALIFIED FOR

B. PHYSICAL CATEGORY

78. IF NOT QUALIFIED, LIST DISQUALIFYING DEFECTS BY ITEM NUMBER

A	B	C	E

79. TYPED OR PRINTED NAME OF PHYSICIAN	SIGNATURE	
80. TYPED OR PRINTED NAME OF PHYSICIAN	SIGNATURE	
81. TYPED OR PRINTED NAME OF DENTIST OR PHYSICIAN (*Indicate which*)	SIGNATURE	
82. TYPED OR PRINTED NAME OF REVIEWING OFFICER OR APPROVING AUTHORITY	SIGNATURE	NUMBER OF ATTACHED SHEETS

U.S. GOVERNMENT PRINTING OFFICE: 1969—O-711-388

Appendix C (4)

Standard Form 89
(Rev. March 1965)
Bureau of the Budget
Circular, A 32

REPORT OF MEDICAL HISTORY

THIS INFORMATION IS FOR OFFICIAL USE ONLY AND WILL NOT BE RELEASED TO UNAUTHORIZED PERSONS

89-105-01

1 LAST NAME—FIRST NAME—MIDDLE NAME		2 GRADE AND COMPONENT OR POSITION	3 IDENTIFICATION NO
4 HOME ADDRESS (*Number, street or RFD, city or town, zone and State*)		5 PURPOSE OF EXAMINATION	6 DATE OF EXAMINATION
7 SEX	8 RACE	9 TOTAL YEARS GOVERNMENT SERVICE: MILITARY / CIVILIAN	10 AGENCY / 11 ORGANIZATION UNIT
12 DATE OF BIRTH	13 PLACE OF BIRTH	14 NAME, RELATIONSHIP, AND ADDRESS OF NEXT OF KIN	
15 EXAMINING FACILITY OR EXAMINER, AND ADDRESS		16 OTHER INFORMATION	

17 STATEMENT OF EXAMINEE'S PRESENT HEALTH IN OWN WORDS (*Follow by description of past history, if complaint exists*)

18 FAMILY HISTORY

RELATION	AGE	STATE OF HEALTH	IF DEAD, CAUSE OF DEATH	AGE AT DEATH
FATHER				
MOTHER				
SPOUSE				
BROTHERS				
AND				
SISTERS				
CHILDREN				

19 HAS ANY BLOOD RELATION (*Parent, brother, sister, other*) OR HUSBAND OR WIFE

YES	NO	(*Check each item*)	RELATION(S)
		HAD TUBERCULOSIS	
		HAD SYPHILIS	
		HAD DIABETES	
		HAD CANCER	
		HAD KIDNEY TROUBLE	
		HAD HEART TROUBLE	
		HAD STOMACH TROUBLE	
		HAD RHEUMATISM (*Arthritis*)	
		HAD ASTHMA, HAY FEVER, HIVES	
		HAD EPILEPSY (*Fits*)	
		COMMITTED SUICIDE	
		DIED INSANE	

20 HAVE YOU EVER HAD OR HAVE YOU NOW (*Place check at left of each item*)

YES	NO	(*Check each item*)	YES	NO	(*Check each item*)	YES	NO	(*Check each item*)	YES	NO	(*Check each item*)
		SCARLET FEVER, ERYSIPELAS			GOITER			TUMOR, GROWTH, CYST, CANCER			TICK OR LOCKED KNEE
		DIPTHERIA			TUBERCULOSIS			RUPTURE / HERNIA			FOOT TROUBLE
		RHEUMATIC FEVER			SWEATING SPELLS (*Night sweats*)			APPENDICITIS			HEMORRHOIDS
		SWOLLEN OR PAINFUL JOINTS			ASTHMA			PILES OR RECTAL DISEASE			PARALYSIS (*Inc. infantile*)
		MUMPS			SHORTNESS OF BREATH			FREQUENT OR PAINFUL URINATION			EPILEPSY OR FITS
		COLOR BLINDNESS			PAIN OR PRESSURE IN CHEST			KIDNEY STONE OR BLOOD IN URINE			CAR, TRAIN, SEA, OR AIR SICKNESS
		FREQUENT OR SEVERE HEADACHE			CHRONIC COUGH			SUGAR OR ALBUMIN IN URINE			FREQUENT TROUBLE SLEEPING
		DIZZINESS OR FAINTING SPELLS			PALPITATION OR POUNDING HEART			BOILS			FREQUENT OR TERRIFYING NIGHTMARES
		EYE TROUBLE			HIGH OR LOW BLOOD PRESSURE			VD—SYPHILIS, GONORRHEA, ETC			DEPRESSION OR EXCESSIVE WORRY
		EAR, NOSE OR THROAT TROUBLE			CRAMPS IN YOUR LEGS			RECENT GAIN OR LOSS OF WEIGHT			LOSS OF MEMORY OR AMNESIA
		RUNNING EARS			FREQUENT INDIGESTION			ARTHRITIS OR RHEUMATISM			BED WETTING
		HEARING LOSS			STOMACH, LIVER OR INTESTINAL TROUBLE			BONE, JOINT, OR OTHER DEFORMITY			NERVOUS TROUBLE OF ANY KIND
		CHRONIC OR FREQUENT COLDS			GALL BLADDER TROUBLE OR GALL STONES			LAMENESS			ANY DRUG OR NARCOTIC HABIT
		SEVERE TOOTH OR GUM TROUBLE			ABSCESS			LOSS OF ARM, LEG, FINGER, OR TOE			EXCESSIVE DRINKING HABIT
		SINUSITIS			ANY REACTION TO SERUM, DRUG OR MEDICINE			PAIN IN, OR TWICE DISLOCATED SHOULDER OR ELBOW			HOMOSEXUAL TENDENCIES
		HAY FEVER			HISTORY OF BROKEN BONES			RECURRENT BACK PAIN			PERIODS OF UNCONSCIOUSNESS
		HISTORY OF HEAD INJURY									
		SKIN DISEASES									

21 HAVE YOU EVER (*Check each item*)

		WORN GLASSES—CONTACT LENS			ATTEMPTED SUICIDE
		WORN AN ARTIFICIAL EYE			USED A SLEEP WALKER
		WORN HEARING AIDS			LIVED WITH PERSON WHO HAD TUBERCULOSIS
		STUTTERED OR STAMMERED			COUGHED UP BLOOD
		WORN A BRACE OR BACK SUPPORT			USED EXCESSIVELY ALCOHOLIC BEVERAGES OR LIQUOR REGULARLY

22 FEMALES ONLY. HAVE YOU EVER—

					BEEN PREGNANT
					HAD A VAGINAL DISCHARGE
					BEEN TREATED FOR A FEMALE DISORDER
					HAD PAINFUL MENSTRUATION
					HAD IRREGULAR MENSTRUATION

B COMPLETE THE FOLLOWING

	AGE AT ONSET OF MENSTRUATION
	INTERVAL BETWEEN PERIODS
	DURATION OF PERIODS
	DATE OF LAST PERIOD
	QUANTITY ☐ NORMAL ☐ EXCESSIVE ☐ SCANTY

23 HOW MANY TIMES HAVE YOU HAD TO THE PAST THREE YEARS?

24 WHAT IS THE HIGHEST PERIOD YOU HELD ANY OF THESE JOBS? RATING

25 WHAT IS YOUR USUAL OCCUPATION?

26 ARE YOU (*Check one*)
☐ RIGHT HANDED ☐ LEFT HANDED

Appendix C (4) *(Continued)*

YES	NO	CHECK EACH ITEM YES OR NO. EVERY ITEM CHECKED YES MUST BE FULLY EXPLAINED IN BLANK SPACE ON RIGHT
		27. HAVE YOU EVER SUFFERED EMPLOYMENT OR BEEN UNABLE TO HOLD A JOB BECAUSE OF A. SENSITIVITY TO CHEMICALS, DUST, SUNLIGHT, ETC
		B. INABILITY TO PERFORM CERTAIN MOTIONS
		C. INABILITY TO ASSUME CERTAIN POSITIONS
		D. OTHER MEDICAL REASONS *(If yes, give reasons)*
		28. HAVE YOU EVER WORKED WITH RADIOACTIVE SUBSTANCES?
		29. DID YOU HAVE DIFFICULTY WITH SCHOOL STUDIES OR TEACHERS? *(If yes, give details)*
		30. HAVE YOU EVER BEEN DENIED LIFE INSURANCE? *(If yes, state reason and give details)*
		31. HAVE YOU HAD, OR HAVE YOU BEEN ADVISED TO HAVE, ANY OPERATIONS? *(If yes, describe and give age at which occurred)*
		32. HAVE YOU EVER BEEN A PATIENT *(committed or voluntary)* IN A MENTAL HOSPITAL OR SANITORIUM? *(If yes, specify when, where, why, and name of doctor, and complete address of hospital or clinic)*
		33. HAVE YOU EVER HAD ANY ILLNESS OR INJURY OTHER THAN THOSE ALREADY NOTED? *(If yes, specify when, where, and give details)*
		34. HAVE YOU CONSULTED OR BEEN TREATED BY CLINICS, PHYSICIANS, HEALERS, OR OTHER PRACTITIONERS WITHIN THE PAST 5 YEARS? *(If yes, give complete address of doctor, hospital, clinic, and details)*
		35. HAVE YOU TREATED YOURSELF FOR ILLNESSES OTHER THAN MINOR COLDS? *(If yes, which illnesses)*
		36. HAVE YOU EVER BEEN REJECTED FOR MILITARY SERVICE BECAUSE OF PHYSICAL, MENTAL, OR OTHER REASONS? *(If yes, give date and reason for rejection)*
		37. HAVE YOU EVER BEEN DISCHARGED FROM MILITARY SERVICE BECAUSE OF PHYSICAL, MENTAL, OR OTHER REASONS? *(If yes, give date, reason, and type of discharge: whether honorable, other than honorable, for unfitness or unsuitability)*
		38. HAVE YOU EVER RECEIVED, IS THERE PENDING, OR HAVE YOU APPLIED FOR PENSION OR COMPENSATION FOR EXISTING DISABILITY? *(If yes, specify what kind, granted by whom, and what amount, when, why)*

WARNING: A FALSE OR DISHONEST ANSWER TO ANY OF THE QUESTIONS ON THIS FORM MAY BE PUNISHED BY FINE OR IMPRISONMENT (18 U.S.C. 1001)

I CERTIFY THAT I HAVE REVIEWED THE FOREGOING INFORMATION SUPPLIED BY ME AND THAT IT IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.
I AUTHORIZE ANY OF THE DOCTORS, HOSPITALS, OR CLINICS MENTIONED ABOVE TO FURNISH THE GOVERNMENT A COMPLETE TRANSCRIPT OF MY MEDICAL RECORD FOR PURPOSES OF PROCESSING MY APPLICATION FOR THIS EMPLOYMENT OR SERVICE.

TYPED OR PRINTED NAME OF EXAMINEE	SIGNATURE

39. PHYSICIAN'S SUMMARY AND ELABORATION OF ALL PERTINENT DATA *(Physician shall comment on all positive answers in items 20 thru 38)*

TYPED OR PRINTED NAME OF PHYSICIAN OR EXAMINER	DATE	SIGNATURE	NUMBER OF ATTACHED SHEETS

☆ U.S. GOVERNMENT PRINTING OFFICE: 1965 O—794-121

Appendix D

MEDICAL DISQUALIFICATION STUDY: PLANNED TABULATIONS

General Requirement: All tabulations are to be made in terms of the following ethnic groups: Caucasian, Negro, Other. (See Appendix B.)

Appendix D

MEDICAL DISQUALIFICATION STUDY: PLANNED TABULATIONS

I. Results of Examination by Type of Examinee

Each type of examinee (item 1) will be tabulated separately by results of examination (item 2) as follows:

Stub	Spread
1. Type of Examinee a. Draftee—Preinduction: Not Previously Examined b. Draftee—Preinduction: Previously Examined c. Draftee—Direct Induction d. Draftee (for induction)—Qualified Preinductee: Physical Inspection e. Draftee (for induction)—Qualified Preinductee: Lapse of Time (Complete medical examination) f. Applicant for Enlistment; Not Previously Examined g. Applicant for Enlistment: Previously Qualified h. Conscientious Objector (I-O)	
2. Results of Examination a. Qualified: Physical Category A b. Qualified: Physical Category B c. Disqualified administratively d. Disqualified: Failed AFQT (below 10 percentile) e. Disqualified: Failed additional mental requirements f. Medically disqualified g. Failed medical and AFQT h. Failed medical and additional mental requirements i. Incomplete examination (either mental or medical)	(1) Geographic Region: Total; Each state within the region. Also U.S. total (all regions combined). (2) Geographic Region by AFEES within the region. Also U.S. total (all regions combined). (3) Geographic Region, by educational groups: 00, 01-03, 04, 05-07, 08, 09, 10, 11, 12, 21, 22-23, 24, 25. Also U.S. total (all regions combined). (4) Geographic Region, by mental category: I, II, III, IV, V. Also U.S. total (all regions combined). (5) Geographic Division, by single years of age (item 8) 17,. . . . 26, 27 and over. Also U.S. total (all regions combined).

(Continued)

II. Conscientious Objectors

Stub	Spread
Item I-lh	1. Education, as in I-2 (3), above 2. Mental Group, as in I-2 (4), above

III. Applicants for Enlistment

Each of these two types of applicants for enlistment (items I-lf and I-lg) will be tabulated separately by results of examination, as follows:

Stub	Spread
Applicants for enlistment	Military service applied
Not Previously Examined	
Previously Qualified By Results of Examination, as in I-2 above	

IV. Educational Attainment and AFQT Scores

The following types of examinees will be included:
a. Draftees: Items I-1a and I-1c combined
b. Applicants for enlistment: Item I-1f
Tabulations required for a. and b., separately

Stub	Spread
1. Education 00 01-03 04 05-07 08 09 10 11 12 21 22-23 24 Post-graduate	Geographic Region: Total; state within each region. U.S. Total (all regions combined).
2. AFQT	The same as in 1, above

Mental Group	Percentile Score
I	100-93
	92-85
	84-80
II	79-75
	74-70
	69-65
	Subtotal

(Continued)

Stub		Spread
Mental Group	Percentile Score	
	64-60	
	59-55	
	54-50	
III	49-45	
	44-40	
	39-35	
	35-31	
	Subtotal	
	30-25	
	24-21	
IV	20-15	
	14-10	
	Subtotal	
	9	
	8	
V	7	
	6	
	5 & below	
	Subtotal	
3. AFQT, by Education as in (2), above		Education, as in 1, above, by geographic region
4. Inductees		
5. AFQT as in (2), above		Education as in 1, above.
6. Enlistees, separately by military service		
7. AFQT, as in (2) above		Education as in 1, above

V. Height-Weight

Examinees to be included: Items I-1a, 1c, and 1f.

A. Height and Weight, separately

Stub	Spread
(1) Height	a. Geographic Region: Total and state within each region. U.S. Total (all regions combined)
Under 58 inches	
58	
59	
:	
:	
:	
81	
82	
83 & above	

(Continued)

Stub	Spread
(2) Weight Under 100 pounds 100-104 105-109 : : : 290-294 295-299 300 & above	b. Same as a. above

(3) Weight vs. Height, by the following age groups: 17-18; 19-20; 21-22; 23-24; 25-26; 27+

Stub	Spread
Weight, as in 1a(2), above	Height, as in 1a(1), above

B. Accessions by the following age groups: 17-18; 19-20; 21-22; 23-24; 25-26; 27+

Stub	Spread
Weight, as in 1a(2), above	Height, as in 1a(1), above

VI. Blood Pressure

Examinees to be included: Items I-1a, 1c, and 1(f)—combined. All tabulations will be made by following age groups: 17-18; 19-20; 21-22; 23-24; 25-26; 27 and above.

The required tabulations:

a. Systolic vs. diastolic
b. Systolic by height
c. Systolic by weight
d. Diastolic by height
e. Diastolic by weight

Ranges: Systolic
Under 85, 85-94; 95-104. . . . . .235-244; 245-254; 255 and over
Not recorded
Diastolic
Under 55, 55-64; 65-74. . . . . .135-144; 145-154; 155 and over
Not recorded

VII. Medically Disqualified

1. First Examinations, by Diagnosis

Stub	Spread
a. Diagnoses: 1st, 2nd and 3rd defects in ways: (1) Presentation codes	1. Geographic Region: Total; each state within the region. Also U.S. total (all regions combined). 2. Geographic Region, by AFEES wtthin the region. Also U.S. total (all regions combined).

(Continued)

Stub	Spread
	3. Geographic Region, by educational groups: 00; 01-03, 04; 05-07, 08; 09, 10, 11, 12; 21, 22-23, 24; 25. Also U.S. total (all regions combined).
b. As in a., above (1st defect only)	1. Geographic Region and state within each region, by Y and Z. 2. Geographic Region, by AFEES and state within each region, by Y and Z.
c. Geographic Region, and state within the region. Also U.S. total (1st defect only)	1. Supporting Evidence.
d. Region and Education (1st defect only) (as in Aa2, above)	
e. Geographic Region (item 6), by AFEES (item 2) (as in 1c, above)	
f. Detailed Diagnoses	1. Total United States

2. Physical Inspection and Reexamination (Lapse of Time)

Stub	Spread					
	Physical Inspection			Reexamination		
Diagnosis as in 1Aa, above	Total	Y	Z	Total	Y	Z

VIII. Medically Disqualified: items 15f, 15g, and 15h

A. First Examinations (items 14a, 14c, and 14f—combined), by Diagnosis

Stub	Spread
a. Diagnoses (First defect only)	1. Geographic Region: Total; each state (item 7) within the region. Also, U.S. total (all regions combined). 2. Geographic Region, by AFEES (item 2) within the region. Also U.S. total (all regions combined). 3. Geographic Region, by educational groups: 00; 01-03, 04; 05-07, 08; 09, 10, 11, 12; 21, 22-23, 24; 25. All U.S. total (all regions combined).
b. Diagnoses (All defects: 1, 2, 3)	1. Geographic Region and state within each region. 2. Geographic Region (item 6), by AFEES and state within each region.
c. Geographic Region and state within the region. Also U.S. total (1st defect only)	1. Supporting Evidence

(Continued)

Stub	Spread
d. Region and Education (1st defect only)	
e. Geographic Region (item 6), by AFEES (item 2). As in 1e, above.	
f. Detailed Diagnoses	1. Total United States

B. Physical Inspection and Reexamination (Lapse of Time)

Stub	Spread					
	Physical Inspection (Item 14d)			Reexamination (Item 14e)		
Diagnosis As in Aa, above	Total	Y	Z	Total	Y	Z

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13. ABSTRACT

The report traces the leading medical diagnoses that have been responsible for a recent pronounced increase in the medical disqualification rates of draftees examined for military service. It also examines the standards for these diagnoses, as well as any changes that have occurred in these standards or in their application, and proposes certain modifications in these standards. It is recommended that serious consideration be given to a general reassessment of the existing medical standards, which are basically "combat oriented;" such reassessment seems to be particularly desirable in view of an impending zero-draft.

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*Physical fitness						
Medical disqualifications						
Disqualification standards						
Draftee medical discharge						